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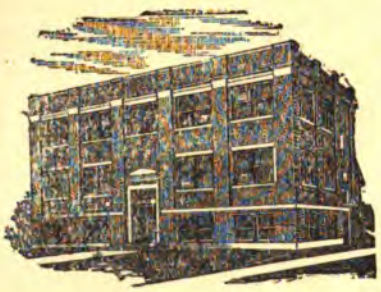

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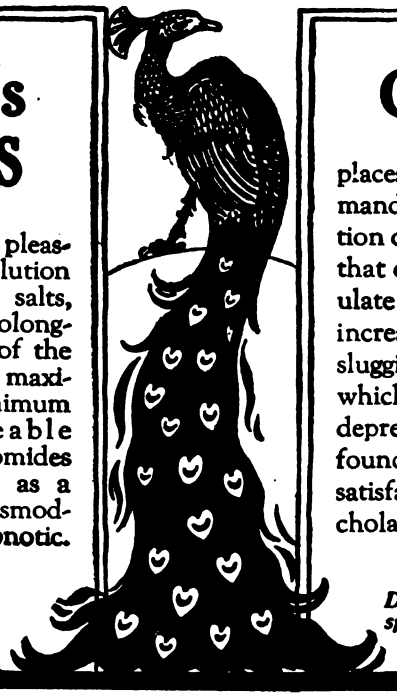

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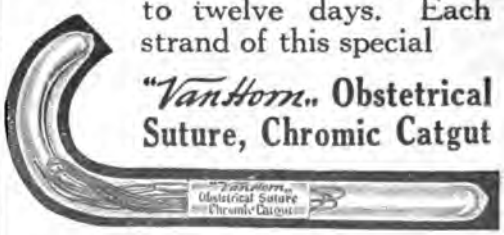

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Vol. XXV OMAHA, NEB., JANUARY, 1920 No. 1

A CALL FOR NATION-WIDE HEALTH CONSERVATION

Preventable disease cost he United States four billion dollars less in 1917 than it would had the health conditions of 20 years ago prevailed in 1917.

Four hundred thousand less deaths occurred in 1917 than would have had the 1900 death rate prevailed.

Annual illness of workers still costs this country two billion dollars each year.

One man in every three called by the Army was found to be physically unfit.

These figures were given out by Surgeon General Rupert Blue of the United States Public Health Service, in urging a plan for nation-wide conservation of health and calling on all health agencies to cooperate in a carefully prepared program.

Surgeon General Blue has sent a letter to State and City Health Officers, to the head of the American Red Cross, the American Public Health Association, the American Medical Association, the National Tuberculosis Association, the International Health Commission, the National Safety Council, the American Child Hygiene Association, and other health agencies, suggesting a conference in Washington to consider a health program prepared by the Public Health Service.

The Surgeon General points out that practically all of these agencies have under consideration some plan of health onservation and that unless the work can be coordinated and properly directed, little will be accomplished and there will be much over-lapping of effort and waste of funds.

It is emphasized that the success of the plan will be determined by its direct applicability to the conditions in the different local communities and for this reason Federal, State and local health officers must cooperate most closely in order to direct the campaign in each community and set a definite objective.

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For instance, a Southern city would be more interested in a campaign against the mosquito and malaria than it would be in Rocky Mountain spotted fever. A Northern industrial city would be more interested in the control of pneumonia and respiratory diseases. All, however, have cancer, tuberculosis and venereal diseases; all would be benefited by public health nursing, medical supervision of school children, conservation of the lives of mothers and children, adequate sewage disposal, the provision of pure water and pure milk. So, while each city and rural community will have as a definite objective the most vital need in that particular place, the various health agencies will have definite objectives according to the particular problem they set or themselves to solve.

The health program to be submitted to the conference has been in preparation for months, experts of the Public Health Service long having foreseen the need of such a nation-wide effort. A preliminary announcement of the plan was made at New Orleans at the recent meeting of the American Public Health Association which gave unanimous endorsement.

Few realize what has already been accomplished in the field of preventive medicine or what can be done by a carefully executed health program which is cumulative and continuous rather than spasmodic and desultory in character.

In 1900 the general death rate from all causes in the United States was 17.8; in 1917, the latest figures available, it had been reduced to 14.2. Had the 1900 death rate prevailed in 1917 there would have been in the United States, with an estimated population of 110 million, 396,000 more deaths than actually occurred.

The record of other years leaves little room to doubt what may be done in saving life. In 1900 typhoid fever caused a death rate of 33.8 per 100,000 population. In 1917 the rate had been reduced to 13.4. Diptheria was reduced from 35.4 to 16.5 in the same period. Tuberculosis declined from 190.5 deaths per 100,000 of population in 1900 to 146.4 in 1917. Had the 1900 rate prevailed in typhoid fever, diptheria and tuberculosis, in 1917, these three diseases alone would have caused 91,740 more deaths than actually occurred.

The Public Health Service is led to believe that its health program is feasible owing to the fortunate cooperation and successful termination of the extra cantonment work which was carried on so efficiently by the American Red Cross, State and local health

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authorities and the U. S. Public Health Service. The lesson taught by this splendid demonstration of team work whould not be lost to the country. For this reason, the American Red Cross, which has set aside millions of dollars for health work in the United States, has been asked to take an active part in translating the health program into action. Its thousands of local chapters are counted on to arouse and maintain interest in health work and actively cooperate with Federal, State and local health officers in accordance with the announced policy of the American Red Cross to cooperate with existing health agencies.

NO MORE RABIES IN POLAND

One of the curious results of the war in Poland has been the almost complete disappearance of rabies. Owing presumably to the large number of wolves and the many semi-wild dogs, rabies was a very common disease five years ago. The Pasteur Institute in Warsaw, which was opened by Pasteur himself, and was the second Pasteur Institute in the world, is said to have given more innoculations than any other institute. But when the American Red Cross first visited it, to offer what help it could, they found only one doctor and only one patient. The building had been stripped by the Germans, but netiher the doctor nor the patient seemed to take the lack of equipment very much to heart.

"You see," the doctor explained with a smile, "we don't have very many mad dog cases now, because the Germans ate up all the dogs.

Dr. Placida Gardner, chief laboratory expert of the Red Cross in Warsaw, told in a recent interview of the damage done during the German occupation to the Warsaw hospitals, which were formerly well equipped.

"The German soldiers seemed to take a special delight in wrecking hospitals," said Dr. Gardner. "After they had stripped the building of everything, even to the electric wiring, the water pipes, the faucets, the door-knobs, they would stand in the middle of a room and literally shoot the place up from floor to ceiling, riddling it to splinters.

"It is not generally known that in the outlying districts of Poland, on the eastern frontier, the German military did not evacuate at the signing of the armistice, as they did from Warsaw and the more

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western sectors. They remained in possession for nearly six months afterward. They were in Bialystok in March. We came right on their heels. And they had employed their time there in wrecking and stripping the country. It is said that before they left they shipped out over a thousand carloads of loot. Much of that was valuable hospital and laboratory equipment, the loss of which resulted in innumerable deaths among Polish soldiers, who, when we came, were lying by the hundreds in the coagulated blood of their wounds, without bandages, without clothing, without even beds or bedding, except straw or old newspapers—when straw or newspapers could be secured."

In restoring the wrecked hospitals and caring for the sick and wounded behind the fighting line, in fighting typhus, the American Red Cross has done a tremendous work. "But the work has only begun," says Dr. Gardner. ' The unusually early winter brings a cry from all over the land for help to fight disease. Between the depredations of the retreating Russians and the incoming and outgoing of the still more pitiless Germans, Poland has been left practically powerless to make the fight alone.'

TWENTY-FOURTH SEMI-ANNUAL SESSION OF THE SIOUX VALLEY MEDICAL ASSOCIATION

Held at Sioux City, Iowa, Wednesday and Thursday, January 21 and 22, 1920. Headquarters and Sessions at Hotel Martin.

PROGRAM

Wednesday, January 21, 1920—Morning Session, 9:00 o'clock.

1. Calling of the meeting to order by the Chairman of the Committee of Arrangements.
2. Reading of the minutes of the previous meeting.
3. Report of the Committee of Arrangements.
4. Report of the Treasurer and Standing Committees.
5. New Business.

Presentation of Papers—

1. J. E. Reeder, M.D., Sioux City, Iowa, "Epidemic Mastoiditis."
2. R. M. Waters, M.D., Sioux City, Iowa, "Accidents During Anaesthesia."
3. C. R. Mullong, M.D., Norfolk, Nebr., "Blood Transfusion and the Results that May be Expected."

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4. Albert F. Tyler, M.D., Omaha, Nebr., "The Injection of Gas into the Peritoneal Cavity for Diagnosic and Therapeutic Purposes."

5. F. S. Clark, M.D., Omaha, Nebr., "Results of Some Experimental Work with the Use of Sodium Cacodylate on Athreptic Infants."

Wednesday, January 21, 1920. Afternoon Session, 1:30 o'clock.

1. Edward M. Williams, M.D., Sioux City, Iowa, "Consideration of Endocrine Influences."

2. D. T. Quigley, M.D., Omaha, Nebr., "Etiology of Cancer."

3. G. G. Cottam, M.D., Sioux Falls, S.D., "The Problem of the Infirm Prostatic."

4. J. E. Summers, M.D., Omaha, Nebr., "The Acute Abdomen, with Special Reference to Intestinal Obstruction."

5. Samuel C. Plummer, M.D., Chicago, Ill., "Surgical Shock."

6. J. P. Lord, M.D., Omaha, Nebr., "The Preservation of Function in Joints after Fractures."

7. F. J. McAllister, M.D., Hawarden, Iowa, "Wound Repair."

Wednesday, January 21, 1920, 7:00 P. M. Banquet at Hotel Martin, followed by addresses:

1. Colonel P. M. Culler, M.C., U. S. A., Hot Springs, Arkansas, "Medical Memories of the War."

2. Donald Macrae, Jr., M.D., (late Colonel, M.C., U. S. A.) Council Bluffs, Iowa, "Who Won the War."

Followed by toasts and addresses by other prominent members of the profession.

Thursday, January 22, 1920. Morning Session, 9:00 o'clock—

1. R. F. Bellaire, M.D., Sioux City, Iowa, "Value of the Fluroscope in Gastro-Intestinal Diagnosis," Illustrated by Lantern Slides.

2. F. J. Plondke, M.D., Saint Paul, Minn., "Vaginal Drainage," illustrated by Lantern Slides.

3. W. H. Mick, M.D., Omaha, Nebr., "Similarity of Emergency and Military Roentgenology."

4. W. E. Wolcott, M.D., Omaha, Nebr., "X-Ray Interpretation of Bone and Joint Pathology," illustrated by Lantern Slides.

5. E. G. McKeon, M.D., Pipestone, Minn., "Unusual Case."

Thursday, January 22, 1920. Afternoon Session, 1:30 o'clock—

1. G. G. Moorehead, M.D., Ida Grove, Iowa, "Head Colds."

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2. J. P. Dougherty, M.D., Sioux Cityk Iowa, "The Polya Operation with Report of Case."

3. J. G. Parsons, M.D., Sioux Falls, S. D., "Myasthenia Gravis."

4. J. C. Hay, M.D., Laurel, Nebr., "Diagnosis and Obstetrical Management of Breech Delivery."

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WOOD ALCOHOL

That wood alcohol is claiming many victims is shown by the number of clippings received in one day at the headquarters of the National Committee for the Prevention of Blindness. Here are some headlines:

Two Men Drink Alcohol—Condition Serious.

High Power Liquid Sold: Said to have been Wood Alcohol and Prune Juice.

Ill from Wood Alcohol.

Wood Alcohol Kills Two Men.

Too Much Wood Alcohol. Two men found in street suffering from poison.

Wood Alcohol Kills 14—Used as Drink.

Find two Wood Alcohol Victims Semi-conscious.

Man and Woman made ill by Wood Alcohol.

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The clippings are from South Carolina, Illinois, Washington, New York, New Jersey, and Missouri.

It behooves every one interested in preventing blindness to carry on the work of educating the public to a knowledge of the fact that wood alcohol used internally or externally is a poison and may cause blindness and death.

THE HYPOTHYROIDEA OF PUBERTY

By P. NOBECOURT, M.D.

Professor Agrege at the Faculty of Medicine, Physician to the Maternity Hospital

The little girl you have before you is fifteen and a half years of age. Her mother brought her to the out-patient department on August 14, 1919, because for a long time her health had left much to be desired and she suffered a good deal from headache.

Her general appearance and the various symptoms observed in the course of a perfunctory examination seemed to justify more thorough examination for the purpose of verifying the diagnosis that at once suggested itself to me and with the object of establishing the treatment I therefore at once admitted her to my wards.

I have very few information concerning her father but the mother appears to be in robust health, she only had this one child and had no other pregnancies.

The child was born at term but only weighed 2 k. 750, she was brought up on the bottle. The only illness she has had was measles at three years of age. She is subject to colds and to attacks of bronchitis.

Since she was thirteen years of age she has noticed that she quickly gets tired and lacks "go." The appetite is poor and she suffers from habitual constipation. She is very sensitive to cold and is obliged to dress warmly. Her extremities are nearly always cyanosed and in the winter she is very liable to chilblains. In 1917-1918 she had gatherings at the root of the nails which were declared to be whitlows.

She first menstruated in January, 1918, at the age of 14, that is to say, at the usual age, but her periods have been scanty and painful. She menstruated once more in June, 1918, and again in January, 1919, at intervals of six months. Since this latter date the periods have been regular but still scanty and painful.

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Her mother also called our attention to the ease with which she bruises as the result of trifling traumatisms. She also lost a lot of blood after the extraction of a tooth.

Let us examine the child. At a first glance she looks small for her age and her corpulence strikes one as excessive. Measurements confirm this impression. She measures 1 m. 45 in height and weighs 46 k. The relationship of weight to height $\frac{P}{T}$ = 3.17. Now according to VARIOT and CHAUMIT'S table of growth, girls of 15 and 16 years of age measure 1 m. 54 and weigh 46 k. with a relationship of $\frac{P}{T}$ = 2.98. This young person has the proper weight for her age but she has only a child's stature. If her weight corresponded to her stature she would weigh 36 k. and the relationship would be $\frac{P}{T}$ = 2.4.

It follows that her growth in height is behindhand while her growth in respect of weight has proceeded normally, whence the disagreement between her height and her weight.

The proportion between the length of the lower limbs and that of the trunk appears to be the same as in normal children of her age. Her bust, that is to say, the distance from the top of the head to the plane surface on which she is sitting, is 78 centimetres. The relationship between the length of the bust and that of the body as a whole is approximately normal (0-53).

Nevertheless her total span is 1 m. 44 so that it is slightly less than her height. Now normally, after 14 years of age, it should be slightly greater so that the increase of length of the upper limbs would seem to be in arrears.

Let us proceed farther with our examination: The skull is rather big but its posterior segment is not particularly large; the forehead is well developed, the nose rather flattened. The cheek bones are too prominent, too high in color, being of a bluish red. The upper lip is thick, the chin is pronounced. Speaking generally the face is rounded, the features are coarse, the *fond* of the complexion is dull. Nothing to note in respect of hair.

The teeth present certain abnormalities. In the upper jaw the second right upper molar has not been cut, that is to say, a 12-year tooth has not yet come through. There are erosions on the free margins of the lower incisors (especially on the left). The lower canines have developed abnormally there being a sort of spur Lastly, the lower molars (6 year teeth) have been shed.

The neck is normal, rather big perhaps. The thorax is rounded,

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the belly big with a thick layer of adipose tissue. The pubic and axillary hair is normally developed. The breasts are well formed.

The thighs are big. The extremities are clumsy. The feet and hands are large and short. The skin is thick and, as it were, infiltrated. The fingers are sausage-shaped. When the child is standing the hands are swollen cyanosed, livid. The skin does not readily fall into folds.

The size of the heart is normal as shown by the precordial dulness and the ortho-diagram drawn up by Mr. Duhem. The sounds are normal, the pulse is regular, rather small. The blood pressure is low: 13-7 with Pachod's apparatus, instead of 15.5—8.5 according to Mlle. KOESSLER. The liver and spleen are not enlarged. The patellar reflexes and muscular strength are normal.

The urine contains 0 gr. 10 or 0 gr. 15 per litre. No sugar The chemical composition is normal judging from Mr. Bidot's analysis, but there is a rather large proportion of kreatinin *viz:* (0 gr. 98 in the 24 hours).

Coagulation of the blood is normal.

The child is not sharp or lively in fact she strikes one as rather apathetic. It is difficult to judge of her mental capacity but she tells us she was in her proper place at school. In any case she seems intelligent enough if not particularly gifted.

I may add that the Wassermann reaction proved negative after reactivation and that the intra-dermic reaction with tuberculin is positive.

The symptoms that I have enumerated for your benefit suggest the clinical syndrome of *hypothyroidea.*

Hypothyroidea is often met with in children and young people It is important to be on the look-out for it because it is peculiarly amenable to suitable treatment. But it does not invariably present itself with the same clinical features so we must know how to identify it. Although the affection is nowadays generally recognized I think it well to give you a few details about it so as to impress it upon you.

Hypothyroidea is a minor degree of thyroid insufficiency. It exists in every degree from slight, trifling, latent, ill-defined insufficiency to total insufficiency; *athyroidea,* which infers the total suppression of the thyroid function.

Thyroid insufficiency may make its appearance at any age, in children, in adolescents, in adults and even in the elderly. The

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symptomatology is greatly influenced by the period of life at which it occurs. It is manifested by symptoms that are common to all ages and by others peculiar to children and young people. The latter are the consequence of disturbances of the thyroid function on growth and on puberty which is governed thereby.

Athyroidea in fact is only another aspect of a well-known affection *viz* myxoedema. In the child, myxoedema may supervene quite early, during the first few years of life, or later, that is to say, after two or three years of age.

Early myxoedema, whether congenital or acquired, rarely becomes recognizable before six or twelve months of age. It imprints a very distinctive cachet on its victim.

The head, big in comparison with the rest of the body, is large behind and shrunken in front. The anterior fontanelle remains open and only closes during the second stage of childhood. The hair is scanty and the individual hair is thick, hard. The forehead is low and narrow, the nose flattened and short. The face is puffy, rounded, "full moon," expressionless, cretinoid. The cheeks are hanging and quivering. The eyelids are swollen, the eyebrows and eyelashes under-developed. The lips are thick, half open, the tongue is big and prominent with copious salivation, the chin is small, the ears are clumsy.

The neck is short and thick. The supre-clavicular and axillary fossae are obliteraded by pseudo-lipomatous masses.

The thorax widens out at its lower part. The abdomen is prominent and spread out like a frog's belly. The pelvis is narrow.

The limbs are short and thick, the ankles, feet, wrist and hands are large, sausage like.

Speaking generally the skin, of a waxen pallor, is thickened, infiltrated. It is cold and dry and readily becomes cyanosed especially in the extremities.

The statural growth is almost inexistant. The height may not undergo any change from childhood onwards. Children of 9 or 10 measure 69 to 70 centimetres the height that is of a baby a year old. Subjects at 20 or 30 measure 85 to 90 centimetres, the height of a child of 3 or 4, others may reach 1 metre or 1 m. 10, the size of a child of 5 or 7. Myxoedema consequently entails very pronounced dwarfism.

On the screen the cartilages are seen to have remained transparent as in extreme infancy and the ossification centres are absent.

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The first dentition does not take place or is delayed. The teeth undergo rapid decay and do not fall at the proper date. There is no second dentition.

There is no sign of puberty. The hair fails to grow, the skin is bald. The external genitals remain rudimentary. Menstruation does not take place.

Lastly, there is no sign of any intellectual development. The idiocy is complete. The child remains motionless, incapable of getting about. At most can he make signs that he is hungry or thirsty. He does not know how to eat. Affective sentiments are completely absent.

I have omitted to mention a number of interesting symptoms but I would ask you to bear in mind the principal features of this early myxoedema; the general aspect, the dwarfism, the absence of puberty and the idiocy.

Delayed myxoedema comes on at a variable period of childhood in children whose development has previously been normal. Consequently growth and intelligence are proportional to the age at which it supervenes.

As a general rule the external appearances are the same as in early myxoedema but the facies is less cretinoid, the dwarfism less marked. Nevertheless the subject remains dwarfish except in cases where myxoedema only makes its appearance after the period of growth.

The first dentition took place normally but the second dentition is lacking or is defective.

According to the age at which the child is affected, puberty is absent or is incomplete and stops before it has fully developed. Should menstruation occur it is irregular, scanty, painful often for that matter the periods cease to appear.

The intellectual capacity is sure to be more or less modified. The child may not be as completely idiotic as in early myxoedema, he may have received elementary instruction or learned some easy calling. He displays affective sentiments but speech is hampered and he finds it difficult to formulate an idea. Moreover he is indifferent, apathetic, quiescent.

When myxoedema attacks a child who has already grown up we only meet with depreciation of the mental faculties, loss of memory, difficulty of speech, slowness of reply, apathy, somnolence,

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indisposition for work, a diminution of the affective sentiments, puerility and irritability of temper.

Similar mental disturbances characterize the myxoedema of adolescents and adults. It is also shown by thickening and infiltration of the integument, dryness of the skin, a tendency to obesity and shedding of the hair giving these patients a very characteristic appearance.

Then, too, *inter alia* we note extreme sensitiveness to cold, frequent attacks of headache, anorexia, constipation, loss of sexual appetite, irregularity of menstruation and ultimately its suppression. But the patient retains the height he has reached.

Hypothyroidea constitutes the latent, ill-defined "fruste" form of myxoedema to which Dr. Thibierge called attention. These constitute a series of clinical syndromes which are more and more marked. At the upper limit myxoedema is no longer recognizable, there are only minor signs and minor disturbances due to the hypothyroidea, the semiological value of which have been established by Drs. Leopold Levy and H. de Rothschild.

It is consequently difficult to draw up a clinical picture of hypothyroidea that shall apply to all cases. The following description is necessarily somewhat diagrammatic.

The appearance of hypothyroidian children recalls more or less that of the myxoedematous subject. The head is big, the face rather puffy, full moon, the look not intelligent. The skin is rather thickened and dry and there is often a tendency to obesity. The extremities are cold and cyanosed, chilblains are common.

The stature is notably below the average of normal children of the same age. Dentition is defective as in myxoedema. These children are sensitive to cold, apathetic, indolent. They prefer to keep quiet and do not care to join in their comrades' games. Unintelligent, they derive little benefit from school teaching. The memory is poor and ideation is inactive. Their speech is slow and drawling. They have difficulty in expressing themselves in fact they often stammer. Unsatisfactory pupils, they dislike work and are neglected by their teachers who look upon them as idlers.

Their temper is uncertain, often irascible, possibly with a tendency to melancholia.

Puberty is delayed and slow in establishing itself. Hair on the pubis and in the armpit makes its appearance later than usual and is spare. The genital organs and breasts are under-developed.

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Menstruation is delayed, and very irregular, recurring only at long intervals and is painful.

Headache, frontal or occipital, as a rule not very severe, is fairly common.

The appetite is moderate, constipation frequent.

Not infrequently there is nocturnal enuresis, in fact, according to Dr. Hertoghe, this is almost always a sign of hypothyroidea.

Alopecia, ichthyosis and adenoid vegetations are not rare.

Among the phenomena caused by hypothyroidea in children abnormal puberty is one of the most striking. In some subjects puberty does not occur or is incomplete; it follows that the transformations of the organism consecutive to sexual formation are non-existant or incomplete. When they become adolescent or adult these subjects remain infantile.

Infantilism, described by Lasegue, Lorain, Brissaud, Meige, Hutinel, etc., is, as defflned by Meige: "an abnormality of development characterized by the persistance in a subject who has reached or passed the age of puberty of the morphological characters of childhood-plus retarded mental development."

Just as hypothyroidea engenders infantilism so it may cause juvenilism, that is to say, the persistance in adult life of the morphological characters of youth—when it supervenes at 18 or 20 years of age.

Infantilism is often due to hypothyroidea, indeed, according to Hertoghe, Ausset and Brissaud it is always due to this cause. Others, especially Hutinel, opine that alongside myxoedematous infantilism *alias* infantilism of the Brissaud type, room must be left for dystrophic infantilism of the Lorain type.

This is hardly the place to go into this question. Moreover it is plain that infantilism can only be met with when the subject has left childhood behind. I need merely mention that these infantile subjects are known by their small size, their long cylindrical trunk, their prominent bellies, the short, rounded, doughy limbs, the large amount of adipose tissue, the absence or scantiness of pubic and axillary hair, the smallness of the testicles and penis, disturbances of menstruation, etc. On the other hand, their mental condition remains childish, they display little intelligence and in general they manifest the appearances and various disturbances that have described in hypothyroidians.

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On radioscopic examination of the bones they epiphyses are abnormally persistent.

These then are the principal symptoms of hypothyroidea, athyroidea and the syndromes to which they give rise.

You will grasp at present why I arrived at the diagnosis of hypothyroidea in the case of the girl whom I brought to your notice.

She is small and slightly obese so her statural growth must be delayed. She is very sensitive to cold and has cyanosed extremities. Her face is full and the skin is somewhat thickened. She complains of headache. Puberty has been established but it was a long time before menstruation became regular and the periods are still painful. She is not very intelligent and her temperament is rather apathetic.

It is therefore one of these "fruste," ill-developed cases in which the hypothyroidian syndrome is merely outlined. Certain symptoms attract one's attention and the general impression enables us to recognize their nature.

Nevertheless our patient cannot be accused of infantilism. Even should she grow no more she will be possessed of the sexual attributes that are lacking in the latter.

I need not recall to your memory the arguments that long since made it possible to assert the pathogenic relationship between thyroid insufficiency and the syndromes what I have sketched.

When myxoedema is congenital the thyroid body is absent or is reduced to the state of vestige. When acquired the gland is the seat of more or less marked fibroid degeneration or, in some instances, as in endemic cretinism and of goitre with degeneration of the glandular elements.

In hypothyroidea the lesions may be trifling and it would often seem to be merely a functional disturbance. That is *per se* probable for even extensive lesions would not suffice to explain the supervention of hypothyroidea inasmuch as the persistance of ever so small a proportion of the glandular parenchyma would suffice to carry on the thyroid function.

The causes of the changes in, and the functional disturbances of, the thyroid body very often elude explanation.

In the production of congenital myxoidema alcoholism on the part of the parents has been incriminated especially the state of intoxication at the moment of procreation, heredo-syphilis, acute disease during pregnancy, etc.

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Acquired myxoedema in some instances follows infectious diseases which not unfrequently, as pointed out by Drs. Roger and Garnier, cause changes in the thyroid body. Heredo-syphilis may sometimes be invoked but in many cases no explanation at all is forthcoming, I am not referring to the endemic myxoedema of goitrous subjects which is met with in certain regions. It follows that the etiology of hypothyroidian states cannot be clearly worked out.

That is the case with our little patient here. Nothing to note in her hereditary antecendents. Her only disease was measles when three years of age. The state of her dentition might lead us to enquire whether heredo-syphilis is not incriminable but the Wassermann reaction proved negative and the dental abnormalities merely point to a disturbance of nutrition and are in no wise pathognomonic.

I may recall that the first symptoms made their appearance at about 13 years of age, that is to say, at the onset of puberty. Now at this epoch the functions of the thyroid gland become more active, the gland swells and the neck becomes fuller. Hyperthyroidea is manifested by various disturbances: the temper becomes uncertain, impressionable, irritable, there is tachycardia and slight tremors, vague discomfort, insomnia, etc. Hypertrophy of the thyroid body and hyperthyroidea are usually fugitive phenomena but, especially in young girls, there *may* be some exophthalmos.

When for any reason the thyroid gland is the seat of special debility, when it becomes incapable of undergoing enlargement and of working at a higher-pressure at puberty, there may be produced relative hypothyroidea which, according to its degree, entails more or less tangible and durable disturbances.

These data provide examples of what is called glandular synergy to which Professor Hutinel (1) drew attention in one of his lectures. This phenomenon is particularly interesting at puberty.

The treatment of hypothyroidea, as of myxoedema, is based on thyroid organotherapy. Numerous are the products at our disposal. The product of election is a dry total extract of the thyroid gland obtained by dessication *in vacuo* at a low temperature. According to the mode of preparation 0 gr. 10 corresponds to 0 gr. 30 or 0 gr. 50 of fresh gland. The extract can be prescribed in cachets, pills or tablets.

It must be remembered that thyroid extract is prone to undergo

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decomposition. If rather old and kept under unfavorable conditions it often decomposes and this renders it not only disagreeable to take but injurious and it is only reasonable to suppose that its therapeutical effects are thereby impaired.

To obtain useful effects it is not necessary to give big doses. We must ascertain the susceptibility of the patient, beginning with a small dose then gradually increasing it.

The dose varies according to age. In the very young we may start with half a centigramme rising to 0 gr. 05. In adolescents and adults we may begin with one or two centigrammes rising to 0 gr. 20 or 0 gr. 30.

If the drug be well borne it can be continued for ten or fifteen days, increasing the original dose every two other day 1, 2, 3, 4, and so on. Leave an interval of five days between each course of treatment.

During the treatment the child must be closely observed because accidents of varying severity may supervene.

Trifling accidents, "alarms," are: tachycardia, heat flushes, sweats, restlessness, headache, pain in the limbs, insomnia, loss of appetite, nausea, diarrhoea, a rise of temperature. In presence of these symptoms the treatment must be suspended.

Graver accidents are: more pronounced tachycardia, vertigo, fainting attacks, dyspnoea, epileptiform attacks, psychocal disturbances, albuminuria, glycosuria, etc.

The gravest accidents of all are syncope and sudden death.

These accidents are in all probability not due to the thyroid gland *per se* but to a faulty mode of preparation. According to Dr. Iscovesco they are due to the presence of highly toxic lipoids which have no therapeutical action and can be got rid of by appropriate means.

As a general rule the effects of treatment soon become appreciable, the skin becomes less dry, the infiltration less pronounced, the appetite improves, the child is brighter, the circulation becomes more regular and diuresis is freer. After a period during which the weight remains stationary or diminishes, it begins to increase, not on account of fresh infiltration of the tissues but because nutrition is improving.

After a certain lapse of time the child begins to grow and the mental defficiency becomes less pronounced.

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The effects, for that matter, very according to the degree of thyroid insufficiency and the state of the thyroid gland.

In the latent forms, the one in which we are more particularly interested on this occasion, a few weeks' treatment will often suffice to determine very marked improvement. But it is important not to suspend the administration of the drug too soon and to give a maintenance dose for a good long time. The latter varies according to the individual, it is given for eight or ten days each month.

During the treatment it is well to put the patient on a lacto-vegetarian diet, to lead a quiet life, rest in bed if required or at any rate to begin with.

Althouth thyroid organotherapy constitutes the fundamental treatment other drugs find their indications.

At puberty the genital organs do not develop properly with consequences which I have explained to you. It is therefore well to have recourse to genital organotherapy. For boys we may order orchitic fluid and for girls ovarian extract in 0 gr. 20 to 0 gr. 30 doses. It is better to prescribe these after thyroid organotherapy has begun to act, applying the two treatments alternatively, say ten days of each for instance.

As soon as improvement sets in, certain drugs come in useful; iron and arsenic for the anaemia, calcium preparations and phytine to promote growth of the bones and so on.

Pari passu certain physiotherapeutical procedures are useful in this connection for the purpose of regulating the circulation and stimulating nutrition. We may prescribe massage, gymnastics, hot douches which act on the peripheral circulation residence at the seaside on the coast of Normandy or Brittany where the air is stimulating, or at Biarritz. A course of treatment at one of the complex hyperthermal chloride waters which exert a highly stimulating action *e g* Bourgonne-les-Bains, Bourbon-Lancy, Bouronb-l'Archambault, Salins Moutiers, etc.

The treatment recommended by Jacquet for chilblains helps to improve the state of the hands and feet.

These principles are going to be applied in the case before you, beginning with thyroid organotherapy. I hope in the course of a few weeks that the improvement in her state will confirm my diagnosis of hypothyroidea. At the same time, in view of the period at which the outburst of growth at puberty ceases, we must not expect to obtain very tangible results in the mattre of height. The treatment

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would have been vastly more efficacious if it had been instituted two or three years ago when the first pathological manifestations made their appearance.—*Le Monde Medical.*

SUMMARY OF REPORT OF LIEUT.-COMMANDER WILLIAM SEAMAN BAINBRIDGE

By ELIZA M. MOSHER, M.D., Brooklyn, N. Y.

A special number of the U. S. Naval Bulletin was issued early in 1919, consisting of a report on "Medical and Surgical Developments of the War," by Commander William Seaman Bainbridge of New York City.

Dr. Bainbridge, who has served in the Navy Reserve as Lieut.-Commander since the United States entered the war, was commissioned in December, 1917, by the Surgeon General of the United States Navy to survey the warring countries, in order:

1. To record the surgical lessons of the present war based on the experiences of our Allies.

2. To secure anything likely to be of value to the United States Naval Medical School, Washington, D. C., or helpful in the preparation of medical men and hospital corps men for active service.

To accomplish this, Dr. Bainbridge not only observed but surgeons worked with the surgeons in the field, and then with this first hand experience weighed results and methods, so as to record and report them. Thus his report is of such value that it should be read by every physician and surgeon in America. It contains a concise and condensed medical and surgical epitome of the wonderful work done from the battle line all the way back to the base hospitals.

The printed report is illustrated by more than 200 photographs and drawings showing hospital ships and railway trains, surgical dressings and appliances, wounded men before and after operations, etc. Methods of treatment, both medical and surgical, are outlined in chronological order showing the great advances made between the early days of the war and its close.

Although this war has been a dreadful school in which to learn this survey demonstrates the fact that the lessons taught have not been lost. The world will be infinitely better cared for medically and surgically hereafter because of the intensive study carried on during the four years of tragic training.

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Dr. Bainbridge's chronological table of the treatment of war wounds is both interesting and instructive:

1. The period of ordinary antiseptic agents; second half of 1914 and first half of 1915.

2. The period of wound drainage combined with antiseptics, 1915.

3. Introduction of hypochlorites, later in 1915.

4. Evolution of the Carrel technique of intermittent wound instillation, early in 1916.

5. Ascendency of Bipp method, 1916.

6. Period of approximately equal use of Morison and Carrel methods, 1916-1917.

7. Prominence of flavine and colored wound paste, such as brilliant green, 1917.

8. Progressive general adoption of wound excision method (which had its beginning early in 1916), late in 1917.

9. Period of primary wound suture, immediate or delayed, 1917-1918.

10. Period of attempted selection, adaptation and standardization, late in 1918.

Before devoting twenty-five pages to a description of the Carrel treatment of wounds with minute and explicit directions regarding the method, and sixteen pages to other methods the results of which are worthy of record, Dr. Bainbridge gives the following summary as the last word in the surgery of wounds:

"Under favorable conditions primary union by immediate or delayed suture of war wounds which have been operated upon and properly purified is now the last word in this branch of surgery. Experience in the wor.d war has taught entirely new lessons to the surgeons who found themselves confronted with unprecedented conditions—both in regard to the masses and classes of war wounds they were expected to handle. Perhaps the most important lesson of all with the closest bearing on wound treatment in general, consists in the recognition of the fact that antiseptics are inefficient without the most careful and thorough mechanical purification of the wound including the complete removal of all dead or nonviable tissue.

"Strong antiseptics, such as were used early in the war in the expectation of arresting sepsis, were fore-doomed to failure, as a

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result of the unprecedented bacterial contamination of war wounds sustained in the germ-laden battle fields of Flanders."

According to Sir Anthony Bowlby, "No definite rule can be laid down as to the lapse of time after which suture should not be done, but the sooner a wound can be operated upon, the greater is the probability of success. As a matter of fact it is not advisable to close war wounds involving extensive lacerations or complicated fracture cases, for all oozing from the wound must have ceased before a successful suture can be applied. "Circumstances alter cases" and the best treatment for a given wound rests with the surgeon in charge."

"It goes without saying that the ever present contigencies of infection and suppuration are materially lessened by the early performance of complete wound closure."

"Scrupulous asepsis is the imperative condition of primary wound suture, immediate or delayed. While thorough in the removal of all hopelessly damaged tissue, the excision should be as conservative and restricted as possible."

"Secondary wound suture is recommended at the earliest possible date, where primary suture could not be applied. Only those war wounds are now left open in which there is an association of anaerobic streptococcic infection."

"In justice to the method of primary suture, it should not be attempted in very large wounds with irregular tracks, where there is extensive shattering of bone. In fracture cases the importance of complete fixation and immobilization from the earliest possible moment cannot be overestimated."

In conclusion it may be said that this procedure has come to stay, and that with the reservation of its three requirements, viz., an experienced operator, a convenient locality, and sufficient time—the adoption of primary wound suture will steadily extend. It is imperative that the operator be one who knows how much tissue to remove. If too little be removed death may result; if too much, a mutilation which is sometimes worse than death.

"War surgery is demonstrating more clearly than has ever been appreciated in the past, the close relation between anaesthesia and the extent of mortality and morbidity, Major Marshall, who spent more than three years in an active part of the forward area, stated it as his conviction, that the bulk of preventable deaths at a casualty

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clearing station was due to giving the wrong anaesthetic, or to giving the right anaesthetic wrongly.

The various types of anaesthetics used were:

1. Local and regional.
2. Gas and Oxygen (with or without ether.)
3. Oral.
4. Spinal.
5. Rectal.

"Local Anaesthesia," was used in many centers successfully even for major operations.

"Gas and Oxygen," was the method preferred when local anaesthesia could not be used, and it is believed by those who had to do with large numbers of desperate cases that, as compared with other anaesthesia, it lessened mortality and reduced morbidity. It was proved to be of spedial value in chest and abdominal surgery.

"Oral Anaesthesia," was introduced by Captain James Gwathmey and Captain T. Kassner—both of the medical corps of the United States Army. It was found entirely safe and was not followed by nausea or vomiting. Its effect lasted but a short time, which rendered it especially valuable for short operations and painful dressings. Supplemented by a hypodermic of morphine, or a little ether inhalation, it proved of great value when the movement of patients with fractures was undesirable and it economized the time of surgeons materially. The formula used was as follows:

Peppermint water, 5 minims.

Ether, 4 fluid drachms.

Liq. Paraffin in 4 fluid drachms.

"Spinal Anaesthesia," with a 4 per cent novocain sol. was much used for wounds of the lower extremities and for painful dressings below the waist-line. A preliminary dose of morphine was found valuable for its psychic effect.

"Rectal Anaesthesia," was employed where long operations with plastic work on the head and face were necessary. In such cases it was found of special value, but it was not advisable to use it when there was difficulty of respiration.

Dr. C. Willems, in a report of the work done by the Belgian Military Hospital at Hoogstade, claimed such remarkable results in joint lesions that, although skeptical, Dr. Bainbridge made the journey to Hoogstade to see the cases reported.

Dr. Willems has given up the immobilization of joints after

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injury; on the contrary he begins active movement of the joint at once.

"The motions must be carried out by the patient himse.f; they must involve those muscles ordinarily used in moving the joint; they must be begun the moment the patient comes out of the anaesthetic; they must be carried out to the point of their maximum excursions, and they must be as nearly as possible continuous; they should not be supplanted by, nor combined with passive motions."

"These movements cause practically no pain unless they produce displacement of a largefragment of bone, in which case such movements are contraindicated."

"This method calls for the constant supervision of a trained attendant, and its success depends to a large extent on the courage and co-operation of the patient as well as on his power of co-ordination."

"The details of the treatment vary considerably according to the nature, extent, and location of the injury."

We shall look forward with interest to the appearance of Dr. Willems' book on the subject, which he promised to publish after the war.

Early in 1915 the death rate in some classes of compound fracures was appalling, but owing to improved methods this has been greatly reduced and a contrast between the mortality and morbidity then and now is most gratifying.

"Immediate immobilization, the use of a Thomas splint or some modification of it, careful splinting so as to allow of no grating of bone ends, the removal of foreign bodies introduced with the projectile, and the importance of not disturbing the injured parts are urged. The extent and character of operative interference; whether antiseptics should be used at all, and, if employed, which is the best, and the kind of splint which should be used after the case leaves the casualty clearing station are as yet matters of varying opinions."

The trephined cases have been found a difficult lot to deal with. "At schools and farms for re-educating the mutilated," and elsewhere "it seemed useless to try to help these men. Some get a little better after a while if left alone," according to Prof. Babinski, one of the greatest neurologists in the world. He advised operating, however, in all cases where symptoms of brain pressure persist."

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Regarding amputations, the following is the consensus of opinion among surgeons, as far as Dr. Bainbridge was able to judge:

1. No amputation should be sutured primarily. When a man is seen with a good stump and there has been a primary suture, there has no doubt been needless removal of part of the limb. always conserve length of the lever. Primary suture does not do this.

2. Early secondary suture; after smears show less than one per field of bacteria, then suture. Never suture, however, when there are streptococci, no matter how few.

3. Never do a Chopart's amputation. You can never get a good apparatus to fit it. There is always a shortening of the tendo-Achillis. If the tendo-Achillis be cut, the part is much weakened, so never employ this operation.

4. A Pirogoff amputation is not good. Syme's is best.

Most important directions for making specific amputations are given in the light of results of war work, and various appliances are described.

The Red Cross has done a highly valuable work in providing artificial limbs for soldiers and stands ready today to furnish limbs or give any aid needed in these cases.

The subject of plastic surgery has long been one of great interest to Dr. Bainbridge, and probably no surgeon in America has done more successful work in this line than he. The twenty-seven pages he has given to this subject with the illustrative plates make this report one of great historic and practical importance.

"Restorative surgery today in the broad sense of the term includes plastic work in many lines, such as bone grafting, the restoring of nerve continuity, tendon transplanting, and implanting of adipose tissue to fill bone or lung cavities; but perhaps the most gratifying results have been obtainedin cases involving the resotring of the jaw and the remedying of gross defects of face and mouth."

The large number of post war facial deformities to be operated upon has made necessary, as Dr. Bainbridge foresaw in 1916, open wards and special hospitals for these patients in all the allied countries where the best plastic and dental work possiboe can be done. "In some cases," Dr. Bainbridge says, "the treatment will require years to complete."

"A vital medical problem for a long time confronting those responsible for the health of the armies abroad has been what

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the British have termed "P. U. O." (pyrexia of unknown origin). Comparatively recently the louse has been definitely incriminated as the carrier of the disease, and through this discovery a long step forward has been taken toward the elimination of much serious illness and disability resulting from this cause."

Probably at no time since the dawn of medical science have medical men with as many honorary letters after their names as Colonel G. A. Moore, C. M. G. D. S. O. D. D M. S., and Major Sir David Bruce, K. C. B. M. D. L. R. S. A. M. S. given intensive study to so small and disgusting an insect as a louse. The task of eradicating the army of lice invaders was almost as gigantic as that of defeating the Germans, and yet as the carriers of trench fever, typhus, and relapsing fever of which over 25,000 cases occurred in one British army corps alone in the twelve months ending April 6th, 1918, they proved a formidable source of numerical loss of the man power of the army.

"When the problem of louse eradication is considered, it is to be remembered that the soldier himself is the chief source of infection. As Dr. Peacock says: "The louse is a parasite which is dependent utterly upon man's blood for sustenance and man's body and clothing for prolonged, prosperous longevity and reproduction." They are spread chiefly by contact, crawling from soldier to soldier, and leave the human body only when the surroundings are warm and moist, as in bed. The louse can live ten days at longest when unfed, and according to Warburton, the nits can remain dormant when away from the body for not more than forty days. The nits may survive freezing, but when they are kept dry and away from the body they usually begin to shrivel up in a few days. The eggs are laid chiefly in the seams of the clothing, being found in greatest numbers in the underclothing and in the fork of the trousers. They are laid also on the body hairs, and the infested parts or even the whole body may have to be shaved in order to prevent a rapid reinfestation."

The multitude of remedies suggested for the eradication of lice proves that no adequate insecticide has been found. Many of these mitigate the evil, but are impotent to remove it.

"When a complete disinfestation plant can be established, with baths and laundry facilities, freeing men from vermin is comparatively simple. They are suaully treated in groups of 20 to 100. The station is divided into two sides, clean and unclean, these two

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sides being separated on the outside also by a high wall. The men strip when they come in and hand all their belongings to an attendant, to be taken to a disinfestor. The men then bathe, are shaved or receive a hair cut, when necessary, and after due precautions are transferred to the clean side where they receive ther disinfested garments. As far as possible, care should be taken to keep the clean men from mixing with the unclean, and new men coming into a unit should be inspected before being allowed to come into contact with the other men."

The discovery of lice as carriers of typhus and relapsing fevers is only second in importance to that of the mosquito in the causation of malaria and yellow fever.

Through the courtesy of Director General Godwin and his aides Lieutenant Commander Bainbridge was able to observe every step in the history of the wounded man from the moment of receiving first aid until he was either restored to military duty or discharged as unfit for further service. He followed the stretcher from the battle field through regimental aid post, advanced dressing station to ambulance, by field ambulance to main dressing station, through casualty clearing station ambulance train, through stationary hospitals, by ambulance transport to England, and by ambulance train to the base or special hospital, and finally to the convalescent camp. One of the most frightful happenings was the bombing of hospitals in which both officers and men lay in fracture apparatus. Wounded officers, who could stand shelling in the trenches and never feared going "over the top" became very panicky under hospital shell fire. The rule was to put cotton in the ears of all patients on arriving to save them anxiety.

Major Lockwood's advice in regard to shock was, "Control hemorrhage and do necessary splinting early. Never use stimulants. Quiet and external heat are the best restoratives. At times salines under the skin may be useful, but these must be given carefully. There have been cases, he told Commander Bainbridge, in which sloughing of the breasts occurred due to hypodermoclysis. Bicarbonate of Soda and Glucose by rectum proved an excellent support to the patient's vitality."

Dr. Bainbridge's description of English and American ambulance trains is very interesting. Each train had 16 cars, 10 of which were ward coaches. The normal load of patients in such a train was 188 lying and 462 sitting cases. Usually a Captain or Major was in

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command with a Lieutenant as assistant, and there were two medical officers, two trained nurses, four orderlies, one quarter-master, two sergeants and three corporals. It was found that operating rooms were not needed on these trains.

The transfer of patients to the boat at Dover and later from boat to train was accomplished with system and dispatch, and the men were carefully moved and most kind y treated; every effort was made to keep up their spirits a victrola entertained them and some played games. They were not allowed to smoke, because each man wore a life belt which was very inflammable. A small stretcher cart was used for the transfer to trains. This not only added to the comfort of the patient but also relieved the stretcher bearers. Beare s should not keep step, it was found, as it shakes a patient too much.

At all the stopping places by the way women of refinement—volunteer workers—were in waiting with a dainty tray for each wounded soldier. On each tray were sandwiches, coffee, strawberries or other fruit a lump of sugar and cigarettes—even a handkerchief and a few flowers were often added. Every man walking or on a stretcher received a cheering word of welcome.

At Dover the patients were classified and distributed to the hospitals best suited to their special needs. On arrival a post card was given to each to be sent to h s next kin announcing his arrival and telling how relatives might obtain half rate railway tickets to visit him, if unable to pay the ful fare.

Dr. Ba nbridge made a careful study of the work done in all the great hospitals in England, France and Belgium, and reported the special features which characterized each. He gave a very interesting and instructive account of the splendid work of our own distinguished American surgeon, Lieut. Col. Crile of Cleveland, Ohio. A year before American entered the war Dr. Crile went over to cooperate with British surgeons, taking with him a hospital unit. He gave to Dr. Bainbridge an extremely valuable summary of the lessons learned from the war which the latter embodied in his report.

In order to relieve the general hospitals, and to hasten the return of men to the battle front, four large convalescent hospitals and camps were established early in the war. Men able to be up and about were sent to these where they were given remedial exercises, apparatus work, massage, etc., to fit them for the hardships of

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army life. At the King's Lancashire Military Convalescent Hospital Blackpool, Col. Barron, a London physician, introduced an apparatus for the treatment of flat foot, which Dr. Bainbridge says should be placed in every hospital and gymansium in civil as well as militay centers. It consists of a ladder-like appliance placed horizontally upon the floor or ground with rungs especially adapted to the exercise of the plantar and ankle muscles, 20 to 30 minutes exercise upon this ladder once or twice daily for three weeks practically cured every case of flat foot.

"It is to the conservative trend of modern surgery that the extension and development of the field of orthopaedic surgery is to be attributed. Not only are amputations and mutilations of many kinds avoided through a timely recourse to orthopaedic methods of treatment, but permanent bodily deformities and functional disablements are prevented."

"It is a significant fact that on January 1st, 1918, there were in the 16 orthopaedic hospitals in Great Britain and Ireland upwards of 15,000 wounded men and of these 75 per cent eventually returned to the army."

"In former times men who had lost limbs in the service of their country were given such surgical treatment and meager equipment as the times afforded. After this they were turned upon the Community with a pension in a soldier's or sailors' home."

"In this day no enlightened nation would be satisfied with so limited a course. Economically such waste of man power would be unthinkable; ethically the failure to recognize a wider responsibility would be inexcusable. In addition to surgical care and the best possible artificial limbs, the disabled man must be given—first, functional re-education in order that he may make the best possible use of the unharmed muscles and of the new apparatus; second, vocational re-education that he may become economically independent in case he cannot return to his former occupation.

Experience in England and elsewhere has shown that it is unwise to leave functional re-education to the time after the wounds have entirely healed. Habits conducive to helplessness and reliance on others have been formed, and the self assertion and energy necessary to the overcoming of his difficulties are hard to arouse in a seriously maimed man."

"The method of immediate mobilization finds a promising field in the majority of the ordinary wounds of war. A very responsible

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part of the treatment devolves upon the physician in charge at the outset. The patient must be taught the performance of the active movements needed to maintain the teamwork of the muscles.

Dr. Bainbridge had a large number of photographs taken of the re-education work rooms in schools and elsewhere in the Allied countries. The 35 of these given in his report should be of immense interest and value to those who are conducting re-education work for our crippled soldiers in the United States. The earnest eagerness in the faces of these men at work learning new ways of making themselves useful is truly remarkable, when one remembers that they must go through life shockingly handicapped.

The Surgeon General of the Navy asked Lieutenant-Commander Bainbridge to make suggestions and recommendations, based upon his first hand information of conditions, to aid in the future development of the medical and surgical care of the American army in the field. These were given in a confidential report which accompanied the one here reviewed. That Dr. Bainbridge's service to the government during the war has been of value is demonstrated by the fact that he has lately had conferred upon him the rank of Commander.

THE SKIN AN IMPORTANT FACTOR WHEN CONSIDERING A LINE OF TREATMENT

By S. C. PARSONS, M.S., M.D., Abilene, Texas

In looking at this subject, supposing it be with the idea of calling attention to certain atrophic conditions of the skin, due to some systemic distrubance; the result of either nervous influence or lack of function and thereby inducing malassimilation or elimination which is insufficient to interfere with perfect metabolism and proper nutrition.

It will be assumed that all conditions that are to be considered are the result of some external cause, which may date back for several years; and the same may have had their origin in measles, coryza, influenza, rheumatism or any fever or disease having a profound effect upon the system, which is sufficient to materially interfere with necessary elimination, yet from which the patient apparently recovers.

Several years may elapse and the patient has passed through several other diseases, by reason of sufficient resistance, and the

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original one has been in a measure lost sight of or forgotten, with no intermediate bond of connection; consequently it may be hard to decide or practically out of the question to state just which one should be regarded as the source. However, we know under the conditions mentioned, a few mild modifications persist, often too slight to perceive, although sufficient to induce a slow bu tprogressive evolution, until several years elapse and then enough changes have taken place to cause new manifestations, some degeneration with defective surface circulation.

The nervous phenomena, the complement of every disease, are often not given enough attention, but it is an influence wyich is indispensable for nutrition; for when it fails in supply, oxidation diminishes and allows fatty degeneration to take place.

By referring to medical pathology one finds degeneration is usually due to destruction of cellular activity and "the more active an organ is the greater are the demands for oxygen; consequently if the supply of that gas be diminished, degeneration will affect those parts which manifest the greatest physiological activity, hence among the muscles the myocardium is first affected, then the diaphragm; among the glands the liver and kidneys."

Since the muscualr substance of the heart is the first attacked, it is plainly evident that the necessary force will be diminished to such an extent that it is not able to furnish, or rather have the power, to force the blood needed through the small peripheral vessels of the skin, which in time is shown through dryness, decrease in temperature, thickness and elasticity, with the loss of the color of health.

Physiological laws never deviate; they are always the same and there is but one belief or opinion regarding this with all men. But when we undertake to enter the domain of medical pathology and endeavor to interpret imperfectly performed functions and conditions of the body through manifestations which may be found on the surface of the same, we may find ourselves bewildered from the fact that each of us will arrive at our own conclusion with an opinion which will conform, or rather be in accordance with, the amount of close study and thought which we have given the subject And thus we know why doctors disagree in diagnosis.

A few illustrative cases will be described, and they should not be considered as due to "destruction of the anterior horns of the spinal cord or of nerve cells in a hemorrhage form or necrosis," but simply

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nerve cells where nutrition and excretion are retarded in their action to a greater or less extent from the pressure of infiltration. They are taken from a group of cases which just drop in for advice, without any idea of undergoing anything more than some brief treatment, and in the hope that accidentally they might run across a doctor who might be lucky enough to prescribe something which would just suit their case.

A lady of fifty called in company with her husband to obtain relief from a chain of troubles. She was extremely suspicious of everybody and everything which happened, very nervous, troubled with shortness of breath upon exertion and complained of constant dryness of her mouth and tongue. The skin was cold, dry and had been devoid of perspiration for two years, and yet the time was the month of July, the saliva was acid, the legs and feet were swollen and often numb. There was no appetite or desire for food outside of coffee. Smothering spells and cramping around the heart and over the abdomen were complained of, complicated with acid eructations and gas and inability to sleep or rest her "tired body," as she expressed herself.

The urine when very nervous would be clear and devoid of color and be passed in quantities of one or two gallons per day. Other times it would be less in quantity and slightly colored. There was nothing abnormal outside of a trace of sugar. The heart was weak but regular, with an anemic murmur. When it came to elimination the stools were light and often white tinged with yellow—irregular yet had taken no end of different pills, powders and calomel. There were plenty of "crows 'feet" on the face; the hair was thin, while the nails were brittle and striated.

Here was a woman with a very strong will and great powers of endurance, yet overcome by the remnants of former severe attacks of sickness, complicated with anxiety and worry until dementia was feared. She happened to have a husband who would not abandon her and was at all times ready to assist or wait upon her when occasion required. When it came to controlling herself, her thoughts and imagination, it was something beyond her power from the fact of her skin having failed to perform for two years the functions of perspiration, and thus allowed various autogenous toxic substances to accumulate within her system, until they nearly overwhelmed her body.

It is out of question for neurasthenics and hysterical people to

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cure themselves, and usually they are cases which require lots of thought, study and meditation. In this case warm baths for thirty or forty minutes were used to relax nervous tension and aid in the distribution of blood through weakened superficial blood vessels and in the endeavor to stimulate the secretion of perspiration and various other functions.

This case, through months of treatment, has eventuated in the return of restful sleep, desire and taste for food and strength to perform considerable work, and will this continue to improve until old age advances and she becomes neglected, and then old symptoms will probably return.

A real estate man of about fifty called to obtain a prescription to help his kidneys and build him up, complaining of weakness and of a feeling that he would soon be "down and out." There was a good head of hair; his bowels were always regular every day without the aid of laxatives or cathartics, yet be believes that something would have to be done.

The first thing noticed were the hands, which were dry, also rough, with cracks and the veins showing prominently through the thin skin. "Crows' feet" were around the eyes, with plenty of wrinkles in the neck and a few on the face and forehead. Over the greater portion of the body the skin was loose and in some places it could be pinched up into folds which were slow to return, thus showing degeneration, loss of elasticity with poor surface circulation from deficient nutrition.

The urine, upon examination, was pale—sp. gr. 1024, acid—no albumin or casts, a trace of sugar; tongue coated a dirty white on distal end. Twenty years back he had had a severe case of sickness and since that time had caught cold very easily, with attacks of influenze, and most of the time had been bothered with cold feet and hands.

The problem in this case would seem to be to relieve him of the remnents of several attacks of disease which had overwhelmed his body, and through the aid of biologicals with hydrotherapy to stimulate elimination; also physical exercise to induce dormant fibers into renewed activity and, as well, a few medicines with known and tried physiological action.

Whenever the muscular fibers of the intestines have not suffered from atony or degeneration and the propulsive process is intact, it is readily seen that the problem of putting a patient who is

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possessed of initiative and energy on his feet, does not require the time which is necessary where degeneration has affected the intestines. Consequently this case responded quickly to treatment and now has nearly regained his normal weight and strength; also the wrinkles are disappearing and the skin is becoming smooth.

A married lady of about forty years, with three children, while on a visit to her daughter called to obtain a prescription for a good tonic to build her up, to relieve nervousness and also to have something added to relieve constipation.

Her home was on a farm away from town, with plenty of milk, vegetables and poultry, yet for several years she had been obliged to take all sorts of purgatives and had not been able to overcome chronic constipation, which lately had been complicated with weakness and nervousness.

The face was of a dull yellowish hue, with lots of wrinkles in the forehead, external canthus of the eyes and surrounding the mouth, also deep wrinkles in the neck; yet her appearance seemed to indicate that she might have had some emotional trouble, since with a little gray in her hair she really looked as though young and that the senility of the skin was premature. Dandruff could be seen without the aid of a magnifying glass; the hands were chapped, dry and rough, the nails brittle; extremities were cold, especially towards morning; the urine normal outside of a trace of sugar. Therefore we should conclude that here was a case where there was scanty glandular and intestinal secretion and the long duration had induced thinness of the intestinal walls. The tongue was heavily coated and of a dirty yellowish color, which at once changed a piece of dark blue litmus paper to bright red. Considerable sodium bicarbonate had been used whenever indigestion and cramps in the abdomen annoyed her. Finally a gall-bladder operation had been advised to relieve the distention and remove the gall-stones.

If we pay attention to the indications presented by the skin and any credence to the same, the question arises, would it not be safer to defer the operation until the degeneration of the skin was under control and a better color established through proper nutrition, especially from the fact of the patient lacking at the time mentioned sufficient strength to withstand the shock of a gall-bladder operation?

Cases of constipation usually accept their trouble as an unfortunate circumstance in life and drift from drug stores to doctors'

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offices, not with any idea of being cured, but with the hope that they may find some remedy which will fit their condition.

It is practically an everyday occurrence that some one will desire advice and treatment for what seems to be a never-ending trouble. Of course, each case will be different, yet quite a large percentage are complicated by the remnants of some former sickness, which for the time being is lost sight of.

A married woman, age 26, no children, complained that during her regular menstrual periods she was hardly able to be about, on account of intense pain, with sick headache and constipation.

There were spots of numbness on the back, sides, hips and arms; she suffered throughout the year with cold feet and hands, also stated that her sleep was not restful. There had been one curettement and another operation had been advised, yet she felt unable to undergo another on account of being so nervous and weak.

The skin was cold, nails brittle and dull-white color, some dandruff and loss of hair, and the face presented a youthful yet pinched look.

A married lady, aged 27, had two children; the periods are usually a few days ahead of time, with some flooding combined with weakness, sufficient to confine her for several days, the greater part of the time in bed or as a convalescent. There had been one curettement. This lady is a bundle of energy, extremely nervous; bowels fairly regular without the aid of medicine, and the only skin indication was that of cold extremities, brittle and dull-white nails, the surface dry, with a vew callosities on each foot, also branny scales of dead skin on the inner side of her nose.

A married lady, aged 35, had two children, was well developed in appearance and would be considered in perfect health, yet she stated that she had been sick for ten years, was operated on for the removal of the appendix and right ovary in the hope of being entirely cured.

The bowels were regular without medicine, and the urine showed nothing outside of normal except a trace of sugar, yet pain remained and but little strength to overcome her troubles. The extremities were cold, with dryness and a considerable showing of very fine scales; the nails were in very fair shape outside of the large and small digits, where they were brittle and discolored. Furthermore, she complained of an intense stinging over different areas, which proved to be due to a mild case of purpura petechia. The hair was falling,

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lots of dandruff, "crows' feet" and wrinkles in abundance on the forehead. Thus we see that the skin showed plenty of evidence of degeneration and the minute extravasations of blood denoted weakened blood vessels and rupture of capillaries.

A married lady, age 20, one child, well developed, having the appearance of a person not in need of medical treatment, yet complained of weakness, being always tired, without energy, and believed that she needed some sort of a tonic to build up her system.

The hair was falling, lots of dandruff, plenty of deep wrinkles on the back and sides of her neck, a few very slight "crows' feet"; extremities cold, little and big toe nails brittle and of a brownish color, while those of the hands were more brittle and striated. In the face there were plenty of acne scars, and furthermore, there was a tendency towards constipation.

Pain and exhaustion often seems quite a puzzle, and many times we are inclined to believe that a considerable portion of both is exaggerated or imaginary, on account of the fact that many who really suffer, as soon as they experience relief, at once put on their "duds" and go about their usual occupations; or as soon as sufficient strength returns are out in the air and sunshine, just as if nothing had happened outside of weakness.

When we fully appreciate what partial degeneration of the integument, oftentimes complicated with atony or enervation of one of the glands or intestines, together with a weakened heart, really indicates, will it not enable us to realize that we have patients possessed of strong powers of will and energy who are quite often—for the time being—simply overpowered on account of some crippled portion, thus retarding the balance of their mechanism in the performance of the necessary functions of life?

Few women pass through life without headache, and physicians who have made it a special study claim that "headache is practically regarded solely as a symptom and not as a disease *per se*," and that the viscera or cerebrum respond to the stimulus of deep pressure; also that "the pains of deep pressure sensibility occur in all those types of headache associated with increased intercranial tension, whether it be due to the pressure of a new growth, hydrocephalus or pressure from without"; therefore, in persons where the skin and subcutaneous connective tissue are found with a depleted supply of blood, there will be one of two things taking place. Either the blood will be lacking in red corpuscles and nutrition for the normal

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maintenance of the body, or there is a congestion of blood in the brain and central portions of the body; and since the blood in women undergoes a large amount of repletion and depletion monthly, will it not be a natural consequence that in those with strong powers of will, energy and resistance, that the pains of the common sick headache are due to deep pressure?

The literature on headache is quite abundant in that line of medicine which is devoted to nervous diseases, and some authorities seem to think that it is rather beneath the dignity of the first-class man who has made special study of nervous troubles to spend his time over the various weaknessess exhibited through emotional disturbance. However, the sympathetic system of nerves play such an important part in everyday life and bodily nutrition that we cannot afford to give much time to the ideas of those who carried on their study without consideration of emotional disturbances and at the same time allowed fellow sympathy to be dropped as an unnecessary attribute in their make-up.

One morning a man desired a prescription for his wife to afford relief from an attack of sick headache. He stated she was 24 years of age, and that for two years the attacks had increased in intensity; that all sorts of proprietary remedies had been taken, also different physicians consulted, but the attacks continued. The lady concluded to call at the office, and during the description of her sufferings it seemed as if you could, through the distorted condition of her face and her expression, actually see and realize how much she was compelled to undergo.

The extremities were cold, the nails were brittle and losing the color of health, the veins were prominent on the arms and the dorsal surface of the hands; plenty of "crows' feet" and wrinkles on the face and neck. Furthermore, she stated that while in bed convalescing from a currettement she suffered nearly all the time from cold and neuralgia, and that while she had been told by two or three physicians that there was practically nothing the matter outside of hysteria and imagination, yet she was actually afraid that it would not be long before she would lose her mind. Further, the questioning disclosed the fact that she was greatly worried over financial affairs and that with her strength failing, her child would be left without a home or any one to care for him.

In all probability the most of us, at some time in our lives, have outlined visions of our future in the ways of success, attainment,

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pleasure and contentment, and should those day dreams be rudely shattered, as they were in the woman's case just mentioned, who has become weakened through sickness and emotional interference with nutrition: then in this case it is really folly to ignore the sympathetic nervous system and advise something which she is not able to do, that is, control herself.

Our bodies, with their wonderful powers of resistance and reconstruction are usually able to overcome sudden attacks of disease, but when complicated by interference of nutrition through former diseases, disappointment and anxiety, worry or bitterness, the burden then becomes too great. Assimilation may be reduced to the minimum and the surface of the body becomes cold and prostrate from weakness, and the pains of neuralgia make their appearance at the weak points, or through internal pressure from congestion, and thus we see cases of sick headache which usually have signs of degeneration of the skin on the face or the extremities, which can be relieved if we will simply take the trouble to connect up the causes producing the same and arrange the treatment in accordance with those conditions.

A man of 31, who at sight looked a perfect specimen of health, was desirous of being relieved of the constant annoyance of "catching cold" with every exposure and sudden change in temperature.

The face of my patient was smooth, with a red glossy color, but the hands were dry, rough and some callosities and cracks with a prached appearance; the nails were striated, thick and brittle. The nails on the toes were worse and showed more signs of defficient nutrition. Both feet were cold, despite the fact of good shoes and of walking for some distance on a warm day. To demonstrate the inability to adjust the circulation, the exposure of the extremities induced considerable sneezing.

There seems to be no end of people who take all sorts of remedies about one half of the year, use sprays and gargles and yet are unable to be relieved from any length of time. "When the body is exposed to cold the sweat secretion is reduced to the minimum and the skin is blanched by the contraction of the cutaneous vessels under the control of the vasomotor center and the assistance of the involuntary muscles which increase the pressure," and should there be degeneration or atrophy of the cutis, it simply renders it not able to adjust the blood supply in conformity to the sudden changes in temperature.

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A lawyer, past 50, desired that something be done so that he could avoid "catching cold." The hair was thin, gray and confined mostly to the lower portions of the scalp; some scales of dandruff, and the outer one-third of the eyebrows were absent, while the nails of both hands and feet were brittle and of a dull brownish color. He is a sufferer from cold and is obliged to wear his hat most all of the day and a cap at night to avoid constant sneezing. Furthermore, he awoke every morning with a headache and his tongue had been heavily coated for several years, and while sleeping it was with great difficulty that he could keep warm in bed, regardless of heavy covering.

Here are two cases representing different periods of life. The first case had a severe attack of typhoid when 12 years old and of pneumonia when 26. The second case had been a sufferer from all phases of malaria and had come West to obtain the benefit of pure, dry air; yet the usual sprays, sedatives, expectorants, laxatives and tonics had failed to cure. Both were men of extra energy and will power and were moving around every day with outside work.

A man of 61 years, accompanied by his wife, came to find out if he could be cured by an operation.

The patient was a stock farmer, and while clearing farm land of roots of small undergrowth something was felt to give way, and shortly after he discovered that he had a rupture in the left groin, for the relief of which he had an elastic and also a spring truss, but the rupture gradually grew larger.

The face and neck showed lots of wrinkles and the outer one-third of the eyebrows were missing and the top of the head was bald. The subcutaneous fat had disappeared on the hands, so that the veins showed plainly and were large, and at the same time there was but little elasticity; when the skin was pinched up in folds it slowly flattened out. The condition of lack of elasticity was also noticed on the arms, legs, abdomen and neck.

Here was a case of degeneration and loss of fat in the subcutaneous connective tissue and loss of elastic fiber in the middle layer of the skin; so there was practically nothing to hold the intestine at the inguinal canal, and with the elastic fibers deprived of about all their elasticity and the subcutaneous fat absorbed, he was deprived of anything that could withstand the sudden impulse of coughing or straining; therefore, no matter how skillfully the operation might be performed, it would be without value under such conditions.

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In examining patients with hernia, how often we hear that their rupture was brought on while debilitated following some prolonged sickness, and usually their skin will show the degeneration through lack of nutrition!

The peripheral circulation was poor, but the main complaint was the loss of strength and the frequent "catching cold;" hence the main problem was to prepare the patient to that he could undergo the operation successfully.

Four years have elapsed; the shortness of breath and the weakness have disappeared; the skin is no longer loose on the body, but fits him sungly and is of a healthy color, also smoother. The appetite and digestion are good; weight has returned, and at present he is able to do about as much manual work, outside of heavy lifting, month in and monty out, as his son, who is about 25 years of age. The rupture does not bother him to any great extent, and physically, aside from his age, he is a good operative case.

After the regular list of questions have been considered, and before writing the prescription or outlining treatment, give the physical development and the superficial indications of vitality and resistance in cases past 30 a few moment's thought, and then carefully look at the skin. When normal, it is warm, smooth, free from eruption; its color is neither pale nor flushed, with the face nearly the color of the body, the skin elastic and slightly moist. The hair should be abundant, light, airy, and neither brittle nor excessively oily; the nails smooth, free from ridges, not brittle, and pink in color.

Request the patient while standing to bend forward for one or two minutes, so that the hands touch the floor; then to remain erect from two to three minutes with the hands hanging by the sides. While in both positions observe whether the hands are puffed and red, mottled or shiny, and whether the skin is tight or fits loosely. If the blood-vessels show up large and plain it indicates weakness of the muscular fibers of the blood-vessels. If the blood-pressure tests confirm the same, it will be best to examine the extremities, and should the veins show large, as though right on the surface, entirely too much loss of muscular elasticity of the blood vessels is evident. It is very probable that heart trouble, chances of hemorrhage occurring in the capillaries of the skin, brain, lungs or congested glands might be obviaged if attention were given to the conditions mentioned.

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While looking at the extremities, do not omit the stockings and notice whether any dead skin like dandruff is on the inner side. Also do not omit the nails. See if they are of a dull whitish color, brittle or a dirty brown, thickened in the middle and really smaller; for if they be either brittle or of the color described, it denotes insufficient nutrition and atrophy. Returning to the hands, examine the nails; they are usually less affected, but may have lost their healthy color, or be brittle and a little thickened with ridges, all of which indicates atrophy in a mild form. In other words, there has been a removal of the tissue-forming elements without sufficient replacement, due to the lack of formation of the same.

Numerical atrophy is a state wherein the number of composing tissue elements of the skin are lessened; and this condition gradually increases until the smaller blood-vessels supplying the skin become practically impervious when wholly destroyed, and there is nothing left to protect the skin from decay or even cancer.

The whole surface of the skin is affected by degeneration; yet there are certain regions, such as the face, neck and extremities, where distention and lack of elasticity, as "crow's feet" and wrinkles, principally occur, on account of the greater tension of the cutaneous muscles of the face, neck and muscles of expression, while those of the extremities, on account of the distance of the peripheral vessels from the center of nutrition and the inability of the heart to furnish the necessary power, show degeneration also. "Crows' feet" are defined in the dictionary as a condition, the result of maturity or age, yet in fat people they do not show at all, or not as plainly, while an examination of the extremities will reveal the existence of premature age or senility.

Callous patches of yellowish brown or gray color denote a thickening of the epidermis from insufficient nutrition and are seen on the hands, feet, elbows and knees.

Scars usually reveal the effects of distention and destructive diseases, which were at the time insufficient to produce rupture of the elastic fibers and thereby afford knowledge of insufficient nutrition at the time of their formative period. Furthermore, the scar of an operation will show the condition of the patient during the period of convalescence.

Generally speaking, when hair is abundant in adults it indicates powers of resistance; however, local scalp troubles due to infectious diseases may cause severe losses in those otherwise strong

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and robust. Again, the hair may fall from lack of blood supply in those who undergo attacks of sickness of long duration or great severity. Therefore, in any condition which disturbs nutrition an endeavor should be made to connect up the causes, in order that proper means may be employed to facilitate the growth of the hair.

When some portion of the scalp is devoid of hair the surface is smooth and shiny or of a dull white color and with the outer one-third of the eyebrows missing. In the majority of cases it will not return unless given immediate attention to relieve the causes producing the baldness.

A vast amount of blame for baldness and dandruff has been shifted onto the barber and his combs and brushes, all of which may be true when any contagious disease appears on the scalp; but the man who owns a head of hair which is properly nourished with good blood, supplied from a body enjoying health and energy, can patronize any barber shop, and as long as he remains in that state of health there will be no baldness or dandruff. Therefore, the blame in the majority of cases of baldness belongs to the individual and not the barber.

Whenever wrinkles appear on the face and neck and gray hairs begin to show, it is nature's method to inform us that degeneration is beginning to occur in the skin covering the head and neck and that baldness or dandruff may result.

The scalp undergoes various alterations from continuous mental exertion, depressing exhaustion, or degenerative changes in the skin occupied by the sebaceous glands, and it may continue in that way for several years. The dead scales or dried particles thrown off by the glands may continue in both men and women with the hair unaffected to such an extent that scales of dandruff can be seen on the scalp or on dark clothing. There is usually considerable itching when the head is hot, yet no thought is given to the matter, however much proper nutrition may be interfered with or diminished to such an extent that all of a sudden dandruff falls in quantities and may continue, or fine hair may disappear entirely from the crown of the head. Anemia of the skin is an overlooked but common occurrence.

Yellow or brown patches in young people are probably due to glandular distrubance; but in those past 35 or 40 some previous circulatory disturbance is indicated and there is liability of "atrophy of the papilla of the middle layer, accompanied by degeneration of

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both the epidermis and the corium, with absorption of the subcutaneous fat, thus leaving the outer surface dry and brittle with a dirty color, furrowed by contractions, oftentimes presenting wart-like prominences of a yellowish brown or black color," which can be easily scraped off but quickly returns. When their removal leaves a raw surface, which will give a bloody stain, the body is then in a condition to develop skin cancer on the face, neck, back or breast, and it will do no harm to examine the entire body from time to time for some manifestation internally.

If we correctly read the superficial indications of pathological conditions which have or are transpiring within the body and adjust our line of treatment in accordance therewith, we will often be rewarded by seeing many weak and crippled hearts and bodies grow stronger, and many cases of indigestion, headaches and rheumatism be relieved. Numerous wrinkles flatten; dryness passes away, with faces smoother, and the color of health slowly returns to the entire body. But to overcome degeneration it may be necessary for us to be really liberal in our interpretation of the various methods which we will advise. We may need the help of physical exercises and development to aid disabled muscles to regain their strength and usefulness; then, too, hydrotherapy to relax nervous tension and stimulate elimination, is useful. Also call in remedies from the glandular and biological field, which will afford us plenty of assistance; and, finally, in some cases, turn the pages of time back and study the physiological action of old-time medicines and the therapeutics of the days when the Doctor was just obliged to dig up relief, afforded through some element, root, or herb and at the same time come to the conclusion that the skin is indeed an important factor when we come to consider our line of treatment.

—*The Medical Council.*

SERUMS ET VACCINES IN THE ACUTE COMPLICATIONS OF GONORRHOEA

By STEPHEN CHAUVET M.D.

Ex-Interne (Gold Medal) of the Paris Hospitals

Present circumstances have brought about a recrudescence of gonorrhoeal contagion and complications (orchitis, metritis, salpingitis, gonorrhoeal rheumatism) are very common. The treatment by means of serums and vaccines is consequently very much of a

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current topic. For that matter the last few years have brought to light various new preparations which deserve to be known to practitioners.

It was in view of the uselessness of the usual methods of treatment in gonorrhoeal rheumatism that it first occurred to Rogers to try an anti-gonorrhoeal serum in 1906. This serum, prepared by Torrey of the Cornell Laboratory of Experimental Pathology at the University of New York, was obtained from rabbits which had been immunized by intra-peritoneal infections of cultures of gonococcus on peptonized beef tea mixed with ascitic fluid. After six injections the animal was considered to be sufficiently immunized and blood was taken from a vein in the ear. A rabbit yielded from 70 to 90 cc of serum. With this serum Rogers treated eight patients suffering from gonorrhoeal arthritis. In two of them no effect at all was noted but both these were chronic cases. *Per contra,* in six other cases, all acute, the effect was far more satisfactory. Speaking generally the temperature fell at the end of the second day following the injection and the pain rapidly abated. The joint swelling greatly diminished and the general course of the disease appeared to be notably curtailed. Here then we have a first, very encouraging, attempt which stimulated many other observers to go on with this method of treatment.

Subsequently other physicians: *de Christmas, Vannod, Bruckner* and *Christeanu* tried various antigonoccal serums on animals but as far as I am aware these trials have not been brought into actual practice. Failing a strictly specific serum Dr. A. Pissavy and I thought out a plan in 1909 of treating the complications of gonorrhoea, especially acute gonorrhoeal rheumatism, by means of anti-meningococcal serum. Although, as a matter of fact, the meningococcus and the gonococcus are two very different micro-organisms the fact remains that from a morphological point of view they present many points of biological and staining resemblance, enough in fact to suggest the idea of treating a gonococcal affection by means of anti-meningococcal serum. We treated in this way two particularly serious cases of gonococcal arthritis and we obtained unhoped-for recovery, unquestionably due to the serum injections; these cases were communicated to the *Societe Medicale des Hopitaux* on October 15, 1909.

Struck by the excellent results of this extremely simple method of treatment various observers gave it a trial. Dr. le Masson employed

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it in salpingitis. Dr. Uteau and Dr. Salle in gonorrhoeal urethritis; Dr. Malleterre, Dr. Schmutz and Dr. Heitz Boyer in gonorrhoeal orchitis. In the treatment of gonorrhoeal rheumatism it was employed by: L. *Ramond* and *Chiray, Boissard, Brun,* and *Naillet, Moscou, Benarson, Strominger, Guichard, Cealic, Heresco, Leger, Florand, Deboie, Malleterre, Lasserre, Barbe, Nogues, Carles* and *Cruchet.* All these observers obtained truly remarkable results with anti-meningococcal serum. The plan they followed was that described by me in my work on the treatment of gonorrhoeal rheumatism. The details of these two cases are to be found in two excellent theses that have been written on the subject. One is by Dr. Malleterre. "Les serums et vaccins dans le traitement actual du rhumatisme et de l'orchite blonorrhagique" (Paris ,1913). The other is by Dr. Schumtz, "Traitement des epididymites aigues blenorrhagiques par le serum anti-meningococcique." (Paris Thesis, 1913). Malleterre concludes from consideration of all his cases that anti-meningococcal serum finds its application in all cases of arthritis and that "easy to handle within the reach for everyone, anti-meningococcal serotherapy by means of anti-meningococcal serum is the one method which at the present time deserves to be generalized." The same observer, referring to gonorrhoeal orchitis, concludes that this treatment determines "within a few hours the subsidence of the pain and within a few days the retrogression of the local symptoms with improvement in the state of the general health that had obliged the patient to take to his bed and had prevented his following his occupation." Dr. Schmutz winds up his work on the treatment of acute gonorrhoeal epididymitis by means of anti-meningococcal serum with the remark that the method deserves to come into general use because "the spontaneous pain and its radiations almost completely disappear within a few hours of the injection, sleep becomes possible and the tenderness rapidly subsides and, finally, disappeared. The inflammatory symptoms gradually cleared up and the temperature promptly fell after the injection. At the same time the thickening and tumefaction of the epididymus in great measure cleared up. The vaginal hydrocele that often accompanies this disease disappeared pretty rapidly. The serum may prevent the formation of indurated nodules in cases dealt with early, in the others the nodules are not of great size and are reabsorbed in the course of a few weeks. The indications for the treatment are: gonorrhoeal orchitis and epididy-

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mitis causing much pain and constitutional disturbance. Dr. Schmutz having, on the other hand, treated other cases by means of anti-gonococcal vaccinotherapy states that "the treatment causes some pain during the first few hours." The injections are simple enough but the application of the treatment is a somewhat delicate task because we have to rely on clinical observation, failing exact indications founded on the opsonic index, the reaction of the organism. This method of treatment is contra-indicated in forms associated with fever."

Many other vaccines have been brought forward to combat the acute complications of gonorrhoea.

Artison, introduced by Bruck, had to be given up on account of the troublesome reaction to which it gave rise. Besredka recommended a vaccine which was tried by several observers and then abandoned. This vaccine indeed is by no means free from toxicity and consequent upon its injection patients have complained of troublesome fever and headache. Renaud's vaccins, obtained by killing the gonococcus by means of ultra-violet rays, was employed by Dr. Francois in Professor Legueu's wards and the results were published in La Clinique June 19, 1914, but they were by no means encouraging. Dr. Francois concludes that the vaccine is but slightly toxic but he was unable to give "favourable statistics." Dr. Besredka having ascertained that sensibilized virus-vaccines constitute a rapid means of obtaining active immunity of long duration, Dr. Cruveilhier prepared a vaccine based on Besredka's principle. It is a sort of combination of serum and vaccine. Dr. Cruveilhier did for the gonococcus what Besredka did for other infective diseases (plague, cholera, typhoid, etc.). It is injected into the connective tissue every second or fifth day. It takes from 3 to 7 injections to obtain the desired results. There is almost always some local erythema and pain, lasting for a few hours. Then too the vaccine sets up more or less pronounced fever. Tried in Professor Legueu's wards this vaccine in a certain number of cases with general complications, enabled them to bring about the subsidence of the inflammatory phenomena. Employed *per se* in acute urethritis however, it did not appear to be of much use.

On account of the local and constitutional reactions various observers have devoted their attention to the preparation of an atoxic vaccine. *Nicolle* and *Blaizot* tried their best to obtain a stable atoxic vaccine (1916). This vaccine is an emulsion in a

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solution of fluoride of sodium of a mixture of gonococci and synococci, the latter being a microorganism often met with in gonorrhoeal discharge. This vaccine is met with in commerce under the name *Dmegon* and is presented in two ampoules: none containing half a cc of the vaccine and other 1cc of water. The mixture is made in the syringe and is injected into the gluteal muscles every four days at most. According to these observers it does not cause more than a trifling local reaction and no constitutional reaction at all. Nicolle and Blaizot claim to have cured cases of gonorrhoeal opthalmia in from three to ten days. Orchitis yielded to from four to six injections. Cases of gonorrhoeal rheumatism in which an injection was given every third or fourth day recovered with eight injections at most. Lastly, cases of acute and chronic urethritis rapidly improved under the treatment. These results secured a certain popularity for the serum for a short time but it was not long before less encouraging results were made public. Dr. Maublant, of Clermont-Ferrand, published notes of several cases treated by him with the serum-vaccine. He states that it is not as atoxic as he had been led to suppose and "it not unfrequently gives rise to violent reactions" so that in some instances, just as with anti-typhoid vaccine, we should, he remarks, be well advised to hold our hand. With respect to the therapeutic results he states that "in short the results obtained by means of this vaccine varied greatly. It must be borne in mind that along with the vaccine the patient was put on the usual treatment so that we may well ask ourselves whether the occasional success of the treatment may not have been due to the fact that the vaccinations were done just when the patient was on the path to recovery." In Belgium, Wiener, Deheagel, Louis Dubois, Delcroix, de Coster and de Smith, gave the vaccine a trial with negative results in cases of urethritis, prostatitis and with doubtful results in orchitis. Dr. Chaurand opines that the vaccine is without effect in acute urethritis and has but little effect in the chronic cases. Dr. Sauvage reports an instance of unequivocal failure in a case of vulvo-vaginitis with secondary peritonitis in a little girl. As the symptoms got rapidly worse they were obliged to perform laparotomy and they found gonococcal pus in the fallopian tubes. Siredey, in a case of epididymo-orchitis set up such a violent reaction that he had to suspend the treatment. LePahe used the vaccine in a case of double bartholinitis yet the glands suppurated nevertheless, moreover each injection was followed by a marked

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rise of temperature. Dr. Pierre Delbet tried it in three cases of orchitis and one of rheumatism with negative results. Dr. Blumenthal gave the treatment a trial in two cases but was unable to continue owing to the symptoms that supervened: high fever running up to 104°F with headache, nausea and great loss of weight. For that matter the vaccine had no influence whatever on the urethral discharge or the course of the disease. Dr. P. Delis utilized this method in five cases of acute urethritis. In two of them the effect was *nil*, indeed it seemed to have aggravated the symptoms. In a case of chronic prostatotos it yielded no result worth speaking of. This observer, moreover noticed that the inoculation was followed by pain at the site of the inoculation, caused a recrudescence of the local symptoms (more running, congestion of urethra and prostate) and gave rise to constitutional disturbance (fever, headache, vomiting and neuralgic pains) so much so that he was fain to desist from the injections. Dr. Nogues tried the Nicolle and Blaizot vaccine in 42 cases but it appeared to him to yield disconcertingly uncertain results indeed, one patient developed orchitis and another gonorrhoeal rheumatism in the course of the treatment. Professor Legueu utilized the vaccine in cases of urethritis, epididymitis, prostatitis and in several cases of rheumatism and he states that it is "particularly useful when gonococci are absent." On the other hand the remarkable effect obtained in gonorrhoeal opthalmia were not observed by Dr. Morax. The latter treated six infants suffering from this grave complication. For a few days he began by applying vaccino-therapeutic treatment without any other. But the supervention of corneal erosions in two cases and the absence of obvious sign so f improvement in three other cases, led Dr. Morax to have prompt recourse to the classical local treatment with nitrate of silver. Dr. Morax remarked in his paper (*Societe d'obstetrique et de gynecologie de paris*, February 8, 1914)that, with regard to the duration of the disease, cases treated by means of *Nicolle* and *Balizot's* vaccines differed in no way from those treated with nitrate of silver or argyrol. It follows that *Nicolle* and *Balizot's* vaccien is not altogether atoxic for all patients and that on the other hand it has not fulfilled the claims of its inventors.

At the present time if we wish to have recourse to vaccination two methods remain: 1° autogenous vaccines (Maute) which are prepared with the patient's own microorganisms; 2° stock vaccines prepared with micro-organisms taken from several cultures. The

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latter, speaking generally, are polyvalent and are obtained by utilizing germs of the same species derived from several different cultures. Theoretically it is better to have recourse to autogenous vaccines. Auto-vaccines, as pointed out, are prepared by employing the patient's own discharge as the course of the culture. In this way we should stand a much better chance of setting up the formation of a strictly specific antobody for the sample of gonococcus from which that patient is suffering. But the difficulty of preparing these auto-vaccines is a great obstacle to their general employment. Consequently many practitioners prefer to make use of stocks vaccines which, they state, are fully as effacicious as autogenous vaccines (Mannini, Renaud, etc.). Stock vaccines are put up in ampoules containing from 5 to 50,000,000 gonococci per cc. The injection is made into the subcutaneous connective tissue of the abdomen. An interval of from two to ten days separates the injections. Two days will do in acute cases, seven to eight in chronic cases.

It is to be remarked that in order to estimate the immunity of the subject, to find out the proper moment for re-injection and the dose to be reinjected Wright follows the variations of the opsonic index. He only reinjects the vaccine when what he calls the *negative phase* is past, its end being shown by a rise in the curve of the opsonic power. But the research of the opsonic index is somewhat difficult and requires considerable experience of this class of work so that it is hardly available in daily practice. For that matter he holds that it is unnecessary. Mannini expresses a similar opinion. Semionof (*Presse Medicale* February 21, 1914) in every case in which he has employed antigonococcal vaccinotherapy also abstained from ascertaining the opsonic index and this for two reasons, viz: 1° because this sometimes gives discordant results that lead one astray and, 2° because John Matthews (a pupil of Wright's) is of opinion that that vaccinotherapy can be applied in gonorrhoeal affections without any necessity for having recourse to such a complicated laboratory procedure especially as this demands consummate experience on the part of the physician. Remionof therefore took as his guide close clinical observation of the morbid symptoms in applying vaccinotherxpy. Speaking generally an injection is given every other day in acute cases, every eight days in chronic states. According to Bonamour and Salle (*Societe Nationale de medecine* March, 1914), we must not hesitate to begin by injecting

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from 5 to 10 millions, rapidly increasing the number to double in the absence of any reaction. In comparing the action of the stock vaccines with those of anti-meningococcal serum Salle states that the serum appears to be indicated on account of its analgesic and antiphlogistic action which is very obvious in acute painful cases of gonorrhoeal rheumatism, that the vaccine may also exert a sedative action in all the chronic, torpid and relapsing forms. Since the last paper by Bonamour and Salle another stock vaccine has been brought forward, viz that of Professor A. Bruschettini, of the laboratory of experimental therapeutics at Genoa. This anti-gonococcal vaccine is put up in ampoules of 2 cc. One ampoule is employed for each injection and it is administered intra-muscularly. In gonococcal urethritis an injection should be given every three or four days and at the same time with the same intervals an urethral injection for which purpose the content of the ampoule is to be diluted with about 4 cc of sterile water.

The vaccine should be allowed to remain in the urethra for several minutes. It is also recommended that the patient should not pass water for at least two hours after an urethral injection. In cases of prostatitis, epididymitis, gonorrhoeal arthritis and gonococcal affections of the uterus and its adnexa, an intra-muscular injection is given every three or four days. The number of injections varies according to the state of the patient and the course of the disease. The vaccine appears to be quite innocuous. I had occasion to try it in two cases of acute gonorrhoeal complications and in neither case did I meet with any particular local or general reaction. Dr. Bruschettini warns us, however, that there may be some constitutional reaction in which case the interval between the injections must be prolonged. I have made use of this vaccine: 1° in a case of unilateral bartholinitis supervening in the course of an acute attack of acute gonorrhoea. The pain subsided after the first injection. On the third injection the bartholinitis appeared to be completely cured; 2° in a case of left unilateral salpingitis that had attained a considerable size having supervened in the course of an attack of acute gonorrhoea. This salpingitis set up intense peritoneal reaction with vomiting and a temperature of 39° C. The pain was very severe. After the first injection the pain greatly diminished, the temperature fell to 37.8 and after the fourth injection the temperature returned to normal, the pain disappeared, the peritoneal symptoms no longer existed and the salpinx pocket

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had greatly diminished in size it was also not tender on palpation. This vaccine, which, is the last of the series, is therefore deserving of further investigation in the treatment of the acute complications of gonorrhoea. In the two cases in which I have employed it the action was plain and the innocuousness absolute.—*Le monde Medical.*

Etiology of Disordered Action of the Heart.—J. A. Venning (*British Medical Journal*, September 13, 1919) draws his conclusions from the study of 7,803 cases admitted as disordered action of the heart or as valvular disease of the heart. Of the entire series 835 were admitted as cases of valvular disease, but on careful examination only 304 of these were found to be actual cases of valvular disease the remainder being cases of disordered action of the heart. Similarly almost half of the cases of valvular disease were originally admitted with the diagnosis of disordered action of the heart. These figures showed the large element of error in differential diagnosis between the two classes of cases. Among the cases of valvular disease fiity-eight per cent. of the patients gave a definite history of acute rheumatic fever, showing the great importance of this disease as a causative factor. In a very large number of the valvular cases the patients had stood many months of hardship and strain in the front line indicating the compatibility of such organic lesions with severe effort. The cases of disordered action of the heart were divided into four groups, corresponding to the four periods of six months each covered by the study, and the etiology was investigated for each period separately. It was found that the greatest causative factor was the physical and mental strain of warfare, the incidence of this factor rising from about twenty per cent. for the first six months to about thirty-six per cent. for the last period but one, and then falling slightly. The second cause was infections, the incidence of which as a cause remaining fairly uniform in the neighborhood of twenty per cent. Here, again, rheumatic fever proved the most important and most crippling, accounting, for from forty-one to fifty-seven per cent. of all cases due to infections. Trench fever was not found to be of very great importance as a cause. Other less important factors were found in neurosis before enlistment, civil occupations, constitutional inferiority, and gas poisoning. The disordered action of the heart caused by the last factor was, however, neither serious nor lasting. Finally the discharge classification of 6,269 cases of

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disordered action of the heart was followed, the cases being grouped according to the etiology. In cases due to gas poisoning sixty-one per cent. who were originally A men were discharged as A men, twenty-one percent. as B men, and the remainder in lower categories. Among the rheumatic fever cases thirty-one per cent. of A men were discharged as A, and forty-one percent. as B, while seventy per cent. admitted as B were so discharged.

Increase of Alkalinity of the Blood in Shock.—Benjamin Moore (*Lancet*, September 13, 1919)contends that more recent work shows that there is no enhanced acidity of the blood in shock such as would warrant the use of the term acidosis, but rather that there is a greatly increased alkalinity of the blood which damages the heart and nerve centres and leads to that secondary shock which results fatally. In shocks there is a very marked reduction of the alkaline reserve so that the titration of the blood to acids gives greatly reduced figures, but at the same time the blood is much more alkaline than normal. In its effort to get enough oxygen the shocked organism breathes off an excess of its carbon dioxide. It thereby alkalinizes its blood and tissues, and this alkalinity, by its action on the molecular aggregation in the bioplasm, disturbs the functions of the heart and nerve centres. As the pressure of free carbon dioxide in the blood is reduced the alkalinity rises and the kidneys and tissue cells remove the alkali from the circulation. For this reason the circulating bicarbonate of the blood decreases and the lowered titration to acids results. With the occurrence of primary shock from any cause there is cerebral anemia and unconsciousness. If this condition lasts for as much as twenty to thirty minutes there is a general reduction in metabolic activity, but the continued respiration, even at a reduced rate, rapidly removes an excess of carbon dioxide over that which is being produced, causes increased alkalinity of the blood, and secondary shock results. Excessive respiration is not a necessary antecedent to shock, but in every case in which shock develops the respiration is excessive if it is considered in relation to the diminished metabolic activity of the tissues and the diminished production of carbon dioxide. In the treatment of shock it is entirely wrong to administer alkalies; what the organism really needs is oxygen, carbon dioxide, and warmth until tissue oxidation approaches its normal level.

Criticism of Recent Claims to Have Discovered and Cultivated the Filter Passing Virus of Trench Fever and of Influenza.—

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J. A. Arkwright (*British Medical Journal*, August 23, 1919) reviews the work of Bradford, Bashford and Wilson, and reports his studies of cultures and stained slides provided by Wilson. The author also reviews the work which has been done by others, and draws from his own extensive researches. He reaches the following conclusions: That he was quite unable to distinguish macroscopically or microscopically between tubes inoculated with trench fever or influenza virus and control tubes at any period up to three weeks from their innoculation, or even longer. Culture tubes which showed a considerable deposit or turbidity of the serum broth always proved to have been contaminated with common bacteria. Two tubes selected by Wilson as good examples of cultures of trench fever virus and influenza virus, respectively, proved to be grossly contaminated with large staphylococci and contained no other organisms. Of three films shown to the author as typical of the trench fever virus two seemed to be films of irregularly stained diphtheroid organisms, while the third contained many small bacilli in addition to diphtheroids. In other tubes, regarded as typical cultures of trench fever, nothing was found other than what may often be found in control tubes. The forms claimed by Bradford, Bashford and Wilson as the organisms of trench fever and influenza seemed to be either a staphylococcus or an irregularly stained diphtheroid bacillus, or smaller and larger granules of precipitated protein such as are found in control tubes. The author believes that Bradforrd, Bashford and Wilson have been misled in their investigation by various factors.

Preoperative and Postoperative Blood-Pressures.—J. O. Polak (*American Journal of Obstetrics*, August, 1919) emphasizes the influence of proper preoperative examinations of the blood, urine, pulse pressure, and renal functions, and of comparative temperature records, in saving gynecological patients from postoperative complications and promoting smooth convalescence. In all cases the author has systolic and diastolic pressure readings taken at rest, after moderate and active exercise, at operation, and six, twenty-four, and seventy-two hours after operation. Frequent estimations of the phthalein output are also made in each patient. From studies along these lines in 350 abdominal cases, the author has become convinced that the pulse pressure is the test of myocardial strength when endocardial lesions can be excluded. The relation of the pulse pressure to the systolic pressure is one to three or more, if compensation is adequate. Renal efficiency is directly dependent upon

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cardiac force, provided the kidney structures are normal or nearly so. One hour of ether anesthesia does not disturb the ratio of pulse pressure to renal function—phthalein output—unless the operation is accompanied by considerable loss of blood. When preoperatie renal function is low, pulse pressure must be high to compensate for it; saline solution by skin, bowel, or vein does no good unless the heart can take it up and carry it along. When both pulse pressure and phthalein output are low, or the ratio of pulse pressure to systolic pressure is as one to two, the operative prognosis should be guarded. Morphine in large doses, used during operation, seems to reduce shock, but definitely diminishes renal output. In the majority of cases the systolic pressures show a moderate fall after ether anesthesia; oxygen inhalation after withdrawal of the ether diminishes this fall temporarily. In cases of shock, especially where much blood has been lost during operation, the fall in systolic pressure is greater than after a long operation without blood loss. The pulse pressure is a better index of hemorrhage or cardiac failure than the systolic pressure. A rise in the leucocyte count occurs constantly in actual hemorrhage, whereas in shocks the leucocytes fall.

Influenza and Surgical Accidents.—J. L. Faure (*Presse medicale*, July 24, 1919) notes that most surgeons believe air infection to be a neglible factor in operative practice. From many years' experimentation and observation, however, he is convinced that infection from dust suspended in the air of the operating room does occur, and he now regularly takes the precaution of settling this dust by means of water vapor and disinfecting the operating room with formaldehyde every week. Where the operator and his assistants, in the presence of unaccountable fatalities from infection, have had the water examined and found it sterile, and have made certain that the autoclaves are in good working order, the cause of the trouble is undoubtedly air infection. Observations during the late influenza epidemic confirmed the author's view in this respect. Suddenly, in January and during the first half of February, 1919, when the second invasion of influenza in Paris was at its height, the author had four patients succumb unaccountably to infection and had seven cases of embolism, of which three were fatal. Most of these cases had been dealt with in the author's own regular operating room, with the same assistants, in the usual technic, and with water, gauze, and autoclaves sterile as shown by actual tests.

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These accidents took place on the very days in which the curve of influenza fatalities reached its maximum and subsequently no more occurred. In a number of patients also pneumonia or phlebitis developed during this period. A relationship is seen between these observations and the numerous fatalities in obstetrical work during the epidemic, infection from the air apparently getting in through the exposed tissue surfaces. Temoin had similar experiences at that time. In any future influenza epidemic, operative work not immediately urgent should be postponed until infection of the air has become less.

Antianaphylactic Immunization with Sodium Chloride.—Richet, Brodin, and Saint-Girond (*Presse medicale*, July 24, 1919) found that when a second injection of horse serum is to be given to an animal which three weeks previously had been given a preliminary injection of this serum, the violent anaphylactic reaction, which is frequently lethal within a short time, may be prevented by the use of a serum which has been diluted with nine times its volume of isotonic sodium chloride solution. Where this is done the reaction is of only moderate intensity and the animal quickly recovers. Sodium chlorate if given in sufficient doses, undoubtedly exerts a protective influence against the effects of second serum injections. If the saline solution is injected before the serum a much larger quantity of salt is required, due, apparently, to the rapidity with which it is eliminated. The protective action of salt is considered by the authors to be related to previous observations upon excess of chlorides reported by them.

Method of Sedimentation of Tubercle Bacilli in Sputum.—J. G. Greenfield and J. Anderson (*Lancet*, September 6, 1919) have employed the following method with success for over a year, finding it much more reliable and practical than any of the other published methods. Five mils of sputum are mixed with ten mils of the following mixture:

Sodium carbonate (crystalline)	1
Phenol (crystalline)	1
Water	100

in a centrifugal tube; the tube is capped with rubber, shaken for a few minutes, and incubated for twelve to twenty-four hours. At the end of incubation the tube is centrifuged for about fifteen minutes, the supernatant fluid poured off, and films are made from two to four loops of the sediment and stained. The method has

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many advantages including: Its rapidity, since the tubes are readily set up and the examination is very easy; the sputum is sterile when the time comes for its examination; the films resemble the direct smears both in the relative proportion of other organisms and in the cellular elements; and the mucus is not stained. Finally the tubercle bacilli can be found in the smears very much more readily than in direct smears, and are often found after the sedimentation when they are absent from direct smears.

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More than ten years ago, Dr. E. C. Rosenow, Mayo Foundation, showed that the autolytic extract of highly virulent pneumococci contained an anti-opsonic substance. It was found that it was possible to separate much of this anti-opsonic substance from the antigenic substances in the protoplasm of the organisms. Their gross experimental characteristics were quite distinctive; the toxic or non-antigenic substances, when injected caused marked local reaction, leucocyosis and fever; the non-toxic or antigenic portion when injected produced no reaction to speak of, no fever nor leucocytosis. Serologically also, the distinction was found to be wide; the toxic substances had practically no effect on the opsonic index, did not confer immunity after repeated injections, and proved fatal to animals injected intravenously; on the other hand, injections of the non-toxic substance was followed by a marked rise in the opsonic index, and by immunity. Furthermore, these substances were shown by the immunity curve to be antagonistic in simultaneous injection.

Such a formidable array of distinctions could not fail to excite interest in their therapeutic possibilities. Dr. Rosenow began immediately the study of the problem and carried it on both from the laboratory and clinical standpoint. Data have been collected from hundreds of clinical applications of *Pneumococcus Antigen* indicating its value. In a series of 200 cases, ranging in age from five to fifty-eight years, in which diagnosis was made by clinical history, physical findings, cultures, etc., the mortality was only seven per cent. Crisis or lysis occurred in a number of days dependent on the time treatment with the antigen was begun; in those injected on the first day, the average duration of the pneumonia was three days and a half; on the second day, five days; and on the third day, seven days. Early crisis or lysis was observed in most casew due to all types of pneumococci. These facts serve to emphasize the value of early administration of the antigen.

Pneumococcus Antigen (V 903) is made by Eli Lilly & Company according to the method of Dr. Rosenow. The results obtained by Dr. Rosenow and his co-workers were duplicated by many physicians in their private practice during the fall and winter of last year. Disregarding the probable recrudescence of influenza and its complicating pneumonias, this winter, it is a well known fact that pneumonia in its more typical forms has always been more prevalent for years after epidemics of influenza. There is no doubt that the opportunities for the further use of the antigen will definitely establish it as a valuable aid in combating this dreaded infection.

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HARMACEUTICAL HOUSE MAKES INTERESTING ANNOUNCEMENT

In view of the nation-wide movement against intoxicants and the trend the times as regards alcohol in its various forms, it is refreshing to note the and taken by one of the large pharmaceutical laboratories—Eli Lilly & ompany of Indianapolis.

An announcement has just been made by this concern that its price list as been undergoing a revision and that alcoholic medicinal preparations that owed an increase in sale due to their use for beverage purposes, have been eleted from the list.

Eli Lilly & Company recognizes the fact that there is a legitimate demand for many of the products containing alcohol; it also recognizes that under xisting laws some of these products constitute a temptation to the unscrupulous. Rather than consent to an abuse of its products this manufacturer stands ready to discontinue their manufacture and sale.

The support of the medical profession is solicited on the basis of high uality and a unique selling policy. It is needless to say that the medical rofession will undoubtedly look upon this step by Eli Lilly & Company as an dmirable act in keeping with the attitude that has characterized a concern hat has the reputation of being one of the most ethical pharmaceutical and iological houses in this country. It is to be hoped that many other pharmaceutical houses will follow in the lead of this Indianapolis manufacturer nd thus assist in elevating pharmacy to the highest possible plane of service o the medical profession.

INDIGESTION—The more we study gastric disorders of functional rigin, the more evident it becomes that the rational way of treating indigestion is to stimulate the secretory glands to do their own work. Seng is a rue gastric secernent, and by activating the glands of the stomach soon ffords a relief from disagreeable symptoms that is far more pronounced and atisfactory than is possible from measures that only act as aids or substitutes.

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6 grains. Bottles of 50 capsules.

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Eli Lilly & Company Makes Clear Its Policy Regarding Alcoholic Medicinal Preparations

FOR many months Eli Lilly & Company has been deleting from its price list alcoholic medicinal preparations that can be used for beverage purposes by those possessing abnormal appetites for alcohol.

While there is a legitimate demand for these products, under existing laws they constitute a temptation to the unscrupulous. Because Eli Lilly & Company will not consent to such an abuse of its products, it was decided to discontinue entirely their manufacture and sale.

Lilly representatives have been given rigid instructions that their house is not in the market for liquor business in any shape or form.

Eli Lilly & Company asks the support of the medical profession on the basis upon which the reputation of the house is built—high quality, ethical products and a unique, fair-play-to-all selling policy.

In its business dealings Eli Lilly & Company is actuated by something more than a desire for dividends to its stockholders. It is interested in the future of pharmacy and in its elevation to the highest possible plane of service to the medical profession. In taking the position outlined above, Eli Lilly & Company believes that it is acting in accordance with the spirit of the times and for the best interests of both pharmacy and medicine.

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